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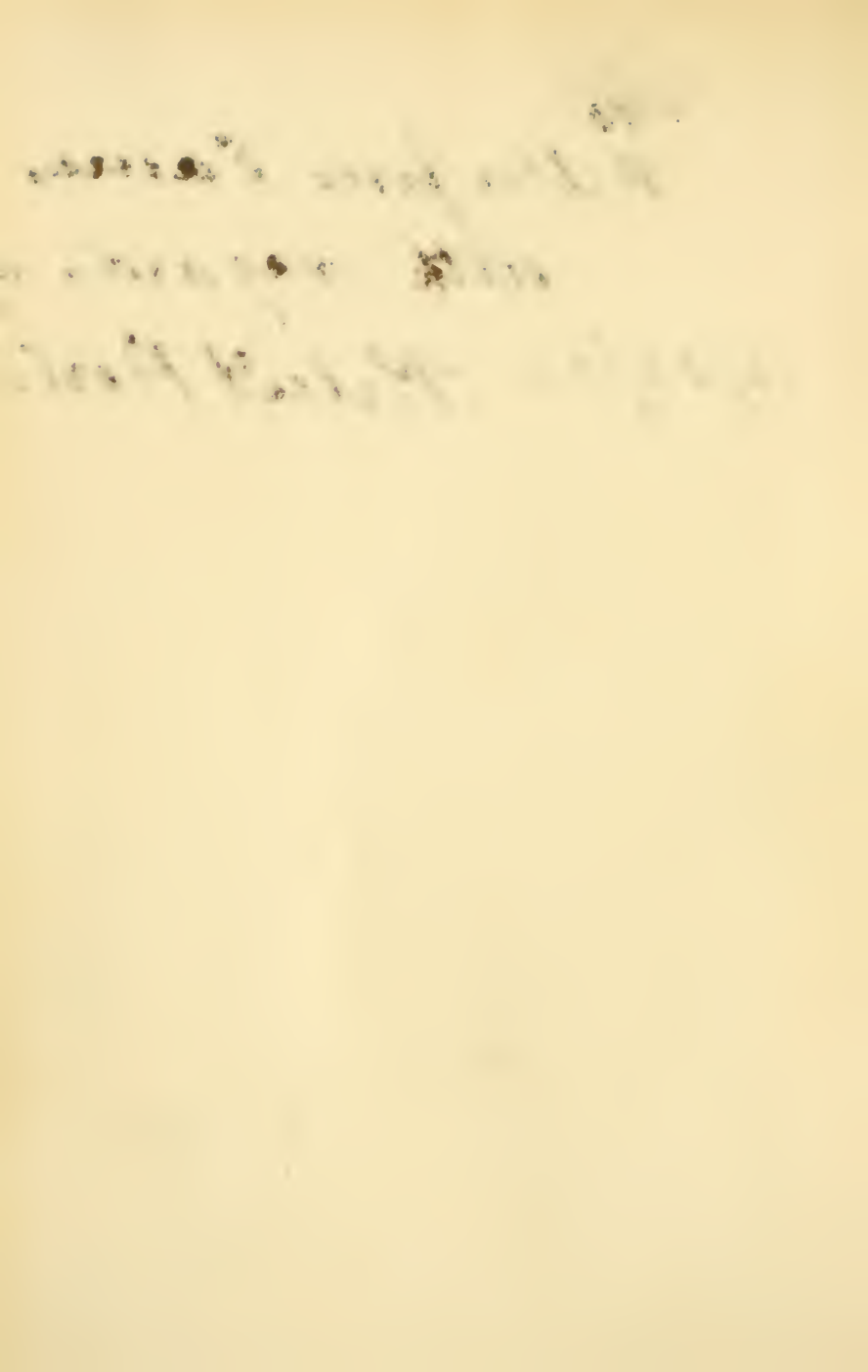
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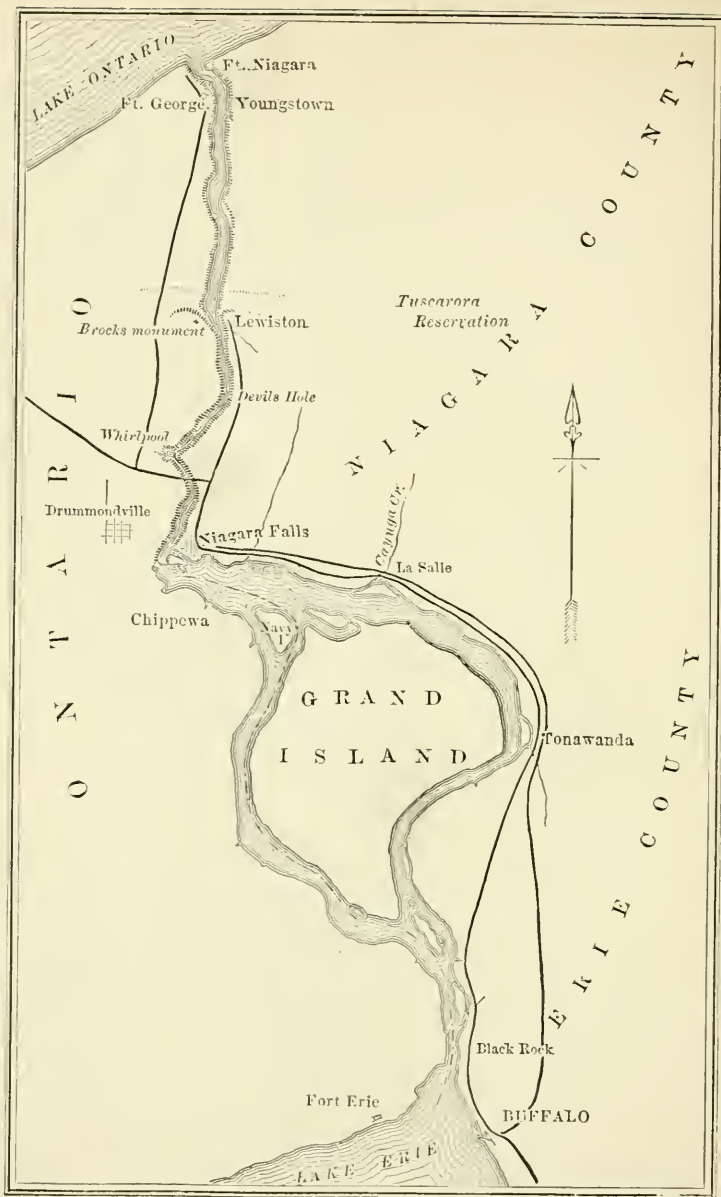


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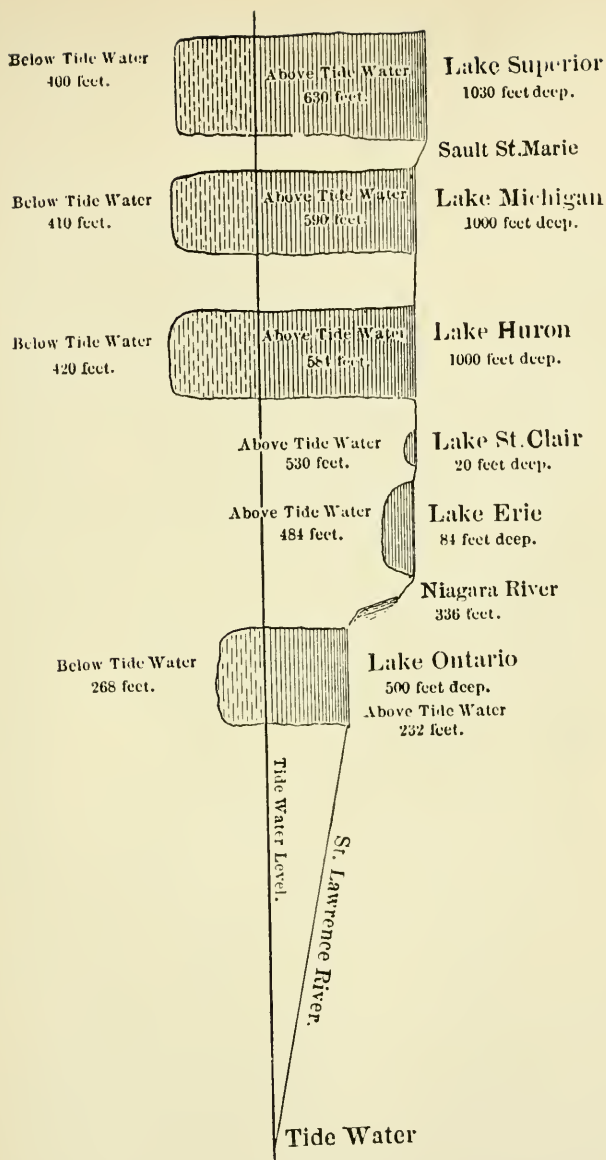
ASTOR, LENOX AND
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11



MAP OF THE NIAGARA RIVER.



DEPTHS OF THE GREAT LAKES.



AMERICAN FALL AND ROCK OF AGES.

·GUIDE·

NIAGARA

·FALLS·RIVER·FRONTIER·



·SCENIC·BOTANIC·ELECTRIC·

·HISTORIC·GEOLOGIC·

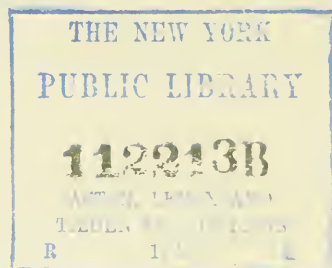
·HYDRAULIC·



·BY·PETER·A·PORTER·
·WITH·ILLUSTRATIONS·BY·
·CHARLES·D·ARNOLD·

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1893



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The Matthews Northrup Works,
Buffalo, N. Y.

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New York State Reservation at Niagara, embracing Goat Island, Green Island, Stedman's Bluff, American Rapids and Fall, Luna Island, Biddle Stairs, Slope below Goat Island, Cave of the Winds, Porter's Bluff, Terrapin Rocks, Views of Canadian Rapids and Fall, and of the Gorge, the Three Sister Islands, Parting of the Waters and the Spring; Prospect Park, Prospect Point, Hennepin's View, the Inclined Railway, Rocks at the foot of the American Fall; River Bank for half a mile above Goat Island Bridge, with views of the upper river.

Trip across the Gorge on Upper Steel Arch Bridge to Canada.

Queen Victoria Park in Canada, embracing Old Table Rock, The Dufferin Islands, Views of Ameri-

can Rapids and Fall, and Canadian Rapids and Fall, and of the Gorge.

Trip on top of Bank, Canada, by Electric Railroad, to Queenston, showing views of Whirlpool Rapids, Whirlpool, Preglacial Outlet of the River, Lower Rapids four miles long, the entire Gorge, Brock's Monument, and view from top of Mountain.

Trip across the river on Suspension Bridge back to American side.

Return trip by Electric Road, along the water's edge, in the Gorge, American side, with views of Lower Rapids four miles long, Devils Hole, Whirlpool, Whirlpool Rapids, the entire Gorge, the four bridges that span the Gorge, passing beneath three of them, and remarkable views of the Falls and Gorge as the car ascends the face of the Cliff.

Trip on the Steamer "Maid of the Mist."

The famous Power House of the Niagara Falls Power Co.

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The name Niagara; the Niagara River; the Falls themselves; the Falls first seen by white men; Indian occupation of this territory; brief history of the Frontier; points of historic interest along the Niagara River.

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ROUTE AND POINTS OF INTEREST,

RECOMMENDED FOR A BRIEF YET COMPARATIVELY THOROUGH TRIP AT NIAGARA.

NOTE.—If any long stops are made or points of interest visited beyond those indicated herein, it is improbable that the complete trip recommended can be finished in one day.

TRACE THIS TRIP OUT ON THE MAP,

In the Morning.

Prospect Point;

Goat Island Bridge and Green Island;

Goat Island;

Down the steps and to Luna Island;

The Cave of the Winds;

Terrapin Rocks at Brink of Horseshoe Fall;

Three Sister Islands;

Upper end of Goat Island;

Across Goat Island Bridge to main shore, and up the river bank, on the American Shore.

In the Afternoon.

Get on an electric car at the Soldiers' Monument; buy a \$1 Belt Line Ticket; ride over the Steel Arch Bridge and up to Horseshoe Fall on the Canadian side; get out and study the scene; buy ticket to Dufferin Islands and return via electric cars; ride to Dufferin Islands; get out and view them; return to Horseshoe Fall.

On \$1 ticket already bought, ride on electric car to Queenston (seven miles); over Suspension Bridge to American side; and up the Gorge on Electric Railroad, by water's edge, back to the Tower.

Prospect Point; down Inclined Railway; Trip on Steamer "Maid of the Mist"; by Inclined Railway to top of Bank.

Walk to Soldiers' Monument near Tower; thence by electric car to Power House.

The Power House.

EXPENSE REQUIRED TO SEE NIAGARA

THOROUGHLY, QUICKLY AND ECONOMICALLY,
ACCORDING TO THE ROUTE RECOM-
MENDED IN THIS GUIDE.

AT NIAGARA,
FOR A ONE-DAY TRIP.

Morning.

Van service around Goat Island,	\$0.15
Trip through Cave of the Winds, while seeing Goat Island,	1.00
Van service up the American Shore, . . . . .	.10

Afternoon.

Electric Railroad. Buy Belt Line trip ticket. This takes one from the Soldiers' Monument over upper Steel Arch Bridge to Canada, up to Horseshoe Fall, from there down to Queenston (eight miles); over Suspension Bridge to American side and along water's edge up the Gorge back to the Soldiers' Monument. Privilege of stopping off at any points desired,	1.00
When at Horseshoe Fall, buy electric railroad ticket to Dufferin Islands (upstream) and return, . . . .	.15
Then resume trip on Belt Line ticket already purchased.	
Inclined Railway, New York State Reservation, . . .	.10
Trip on Steamer "Maid of the Mist," . . . . .	.50
• Electric Car to Power House, . . . . .	.05
The Power House to the Gallery, . . . . .	.10
Total,	\$3.15

Whoever follows this route and visits the points of interest suggested can feel that he has seen Niagara as thoroughly as it can be seen in one day.

FREE NIAGARA.

THE NEW YORK STATE RESERVATION AT NIAGARA AND THE QUEEN VICTORIA NIAGARA FALLS PARK.

The visitor should bear in mind that "Niagara is free to the world."

Niagara to-day, the Falls, the Rapids above and below them, the Goat Island Group, the Gorge and the Whirlpool are substantially the same that they have been for hundreds of years. But the last fifteen years have made a new Niagara for sight-seers.

By the establishment on the American side, in 1885, of the New York State Reservation at Niagara, which cost a million and a half of dollars, and embraces 114 acres, including the Goat Island Group, Prospect Park, and a strip of land along the river bank, extending upstream for about half a mile above the commencement of the Rapids, the New York side of Niagara, which is the larger, more important and more accessible portion, was made free forever to all mankind.

Similarly, the opening of the Queen Victoria Niagara Falls Park, in 1888, on the Canada side, which comprises 154 acres, and cost nearly half a million dollars, made the lands at the Falls, and for a mile both above and below them, on that shore, accessible to all without pay.

So, now, Niagara Falls, the grandest sight on earth, the rapids above them, and the gorge below them, can be viewed, studied, and enjoyed by all, both from the American and from the Canadian shores, and without expense.

On each Reservation, however, there are certain extra but desirable facilities provided for visitors who may desire to patronize them, and for these certain fees are charged. These facilities are either transportation or special trips involving outlay on the part of the lessees, and are therefore facilities which it is obviously no part of the duty of either Government to furnish free.

These expenses on these two Reservations are not necessary to enable one to see Niagara, or even to see it well ; but they are really essential for any one who would see it *thoroughly*, for without incurring them certain glorious views and unique experiences are absolutely unobtainable.

On the New York State Reservation these fees are :

A Van Service, charge for the entire tour of the Reservation, with privilege of stop offs,	\$0.25
Guide and dress for trip to the Cave of the Winds,	1.00
The stairs to the slope below are free.	
The Inclined Railway at Prospect Park, up and down, . . . . .	.10
The stairs are free.	
Trip on the Steamer "Maid of the Mist," . . . . .	.50

In the Canadian Park these charges are :

Electric Railway,	according to distance.
Trip down the elevator and with guide and dress, behind the end of the sheet of water, . . . . .	.50
The Inclined Railway, up and down the bank to the Steamer "Maid of the Mist," . . . . .	.10
The road down the bank is free.	
Trip on Steamer "Maid of the Mist," the same as that noted on the American side, . . . . .	.50
A toll for each carriage going to the Dufferin Islands.	

To view Niagara is one thing, to really "see" it is quite another ; while to study it, comprehend it, and enjoy it, requires time for leisurely sight-seeing.

The building of the various electric railroads hereabouts have made travel, both at Niagara and to its environs, rapid and cheap, and has also made accessible many, until then unknown, views of its scenery.

Whoever visits Niagara and follows the itinerary herein recommended can feel with certainty that, if he stays but a day, he has seen it as thoroughly and as economically as it can possibly be done in that limited time.

TRANSPORTATION TO AND CHARGES AT THE VARIOUS POINTS OF INTEREST AT NIAGARA.

For the large majority of people who spend but a short time, say one day, at the Falls, the route given in this Guide will enable them, if they follow it closely, to see Niagara pretty thoroughly, and at a known and reasonable expense, in that time.

But for the information of persons who desire to spend a longer time at Niagara, visiting two or three of the points of interest each day, and making trips to places of scenic or historic interest, which are not included in the itinerary herein suggested, transportation rates to, and admission fees charged at, all the usually visited points of interest hereabouts are appended.

These points include all those mentioned in the route recommended herein, as well as others.

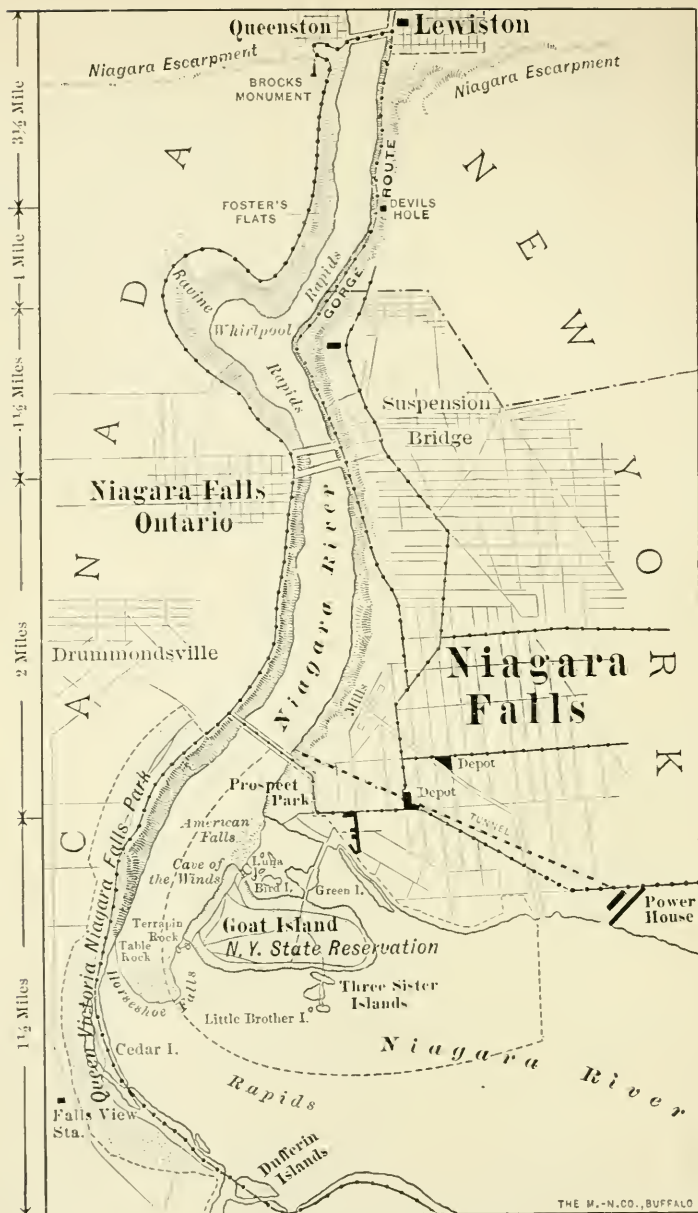
ON THE AMERICAN SIDE.

IN THE NEW YORK STATE RESERVATION.

The Cave of the Winds, within walking distance, or reached by van service on Goat Island,	\$1.00
Inclined Railway in Prospect Park, within short walking distance, . . . . .	.10
Trip on steamer "Maid of the Mist," reached by Inclined Railway, . . . . .	.50

OUTSIDE POINTS OF INTEREST.

Power House, reached by electric car, . . . . .	.10
Devil's Hole, on top of bank, reached by electric car, . . . . .	.50
Trip on Electric Railway along water's edge in Gorge.	
Rates according to distance.	
Fort Niagara, reached by steam railroad to Lewiston, round trip, . . . . .	.25
Thence by Electric Railroad, round trip, . . . . .	.50



MAP OF "SCENIC NIAGARA,"
 EMBRACING THE ITINERARY HEREIN RECOMMENDED.

ON THE CANADIAN SIDE.

IN QUEEN VICTORIA PARK.

Steel Arch Bridge to Canada, over and back, . . .	\$0.15
Burning Spring, . . . . .	.50
Trip under end of Horseshoe Fall, . . . . .	.50
Whirlpool Rapids Elevator, . . . . .	.50
Brock's Monument, . . . . .	.25

All of these points reached by Electric Railway. Rates according to distance.

BEYOND THE PARK LIMITS.

Niagara-on-the-Lake, reached by steam railroad to Lewiston, round trip,	\$0.25
Thence by steam boat, round trip, . . . . .	.25

The various views of the Gorge and of the Lower Rapids are best obtained from the cars of the electric railroads, on both sides of the river.

The other points of interest in the immediate vicinity of the Falls, enumerated in our historic section, are reached best by carriage.

Rates of carriage hire allowed by law in the City of Niagara Falls, N. Y.:

For carrying one passenger and ordinary baggage from any point within the city limits to any other point therein, not exceeding one mile,	\$0.50
For each additional passenger and ordinary baggage, Not exceeding two miles, . . . . .	.25 1.00
For each additional passenger and ordinary baggage, Not exceeding three miles, . . . . .	.50 1.50
For each additional passenger and ordinary baggage,	1.00

More than three miles, for two-horse carriage, TWO DOLLARS for the first hour, and ONE DOLLAR AND FIFTY CENTS for each additional hour; for one-horse carriage, ONE DOLLAR AND FIFTY CENTS for the first hour, and ONE DOLLAR for each additional hour.

THIS GUIDE.

The first guide book of Niagara was issued about eighty years ago. Since that time numberless so-called guides, or attempts at guides, have been sent out. But the guide which in simple language tells accurately, fully and succinctly of the Niagara Frontier — first, about the wonderful scenery at and adjacent to the Falls themselves, and, secondly, about the many scientific and historic points of interest up and down the river, treating specially of the subjects enumerated on our title page — is yet to be written.

Let us see, if in this, the opening year of the twentieth century, celebrated hereabouts by the holding of the Pan-American Exposition on the Niagara Frontier, we cannot now produce it.

And we arrange it on a plan that is different from that adopted in any previous work on the subject.

First of all, our plan presents to the visitor a "vade mecum," or itinerary, pure and simple, to all the scenery of what is usually known as Niagara Falls. This plan has been adopted because it is the one which, for so many years past, has proved so eminently practical and satisfactory to the thousands and thousands of visitors to the famed cities, towns, historic sites and scenery of continental Europe.

We shall conduct the reader over the entire scenic Niagara, our route arranged so as to economize time and yet enable him to see everything, and at a minimum of cost; and as we journey thus together we shall point out each and every place of interest, and

give each, in its appropriate place, a short history of every important event, whether of scenic, historic or artistic interest, as in our saunterings they respectively come within our vision. For in this way minutely covering the ground, and in no other way, can a stranger feel that he has really "seen" Niagara; and seen it not superficially, but with a full knowledge of the past history of the immediate locality; and for an intelligent comprehension of Niagara this past history, in its many and varied aspects, is as much a part and parcel as the falling sheet of water, the rapids, the rainbow, or the cloud of spray.

Visitors to Niagara may be classed in three divisions: The first, and numerically by far the largest, of these is composed of those persons who desire to see all there is to be seen thereabouts in the limited space of perhaps a day; the second class comprises those who can devote two or three days; and the third, and smallest class, those who expect to spend a week or more in the contemplation of this wonder. While for all three of these classes the programme which this guide will follow will be appropriate, it is to be observed that a strict and prompt adherence to the route suggested will enable a visitor to "do" Niagara in one day; while for the other classes of visitors enumerated above, numerous side trips and variations from this programme, though still following it in its entirety, will make the visit all the more attractive and beneficial. For, while Niagara Falls itself may be seen in a day, there is no spot on earth where time and leisurely sightseeing more amply repays the visitor than at Niagara.



GENERAL VIEW OF NIAGARA FALLS, FROM CANADA.

NIAGARA.

“Earth’s grandest sight conceived to be
The emblem of God’s majesty.”

DESCRIPTIVE.

FOR the reason that the task of describing any scene in Nature is difficult in proportion to its rarity, and that we derive our conception of the same from the comparison it will bear with other approximately similar scenes, and for the further reason that Niagara is unique and totally unlike any other sight on the face of the earth, it is a most onerous work to produce such a pen-picture of the Falls as will convey to the minds of readers who have never seen them any accurate idea of their grandeur.

During the past two and a quarter centuries a great deal has been written about Niagara by thousands of people. Its description has been attempted in prose by many who are well known in the literature of the world ; and by many more who are unknown. The shortest, perhaps the most eloquent, probably the most suggestive, certainly the most non-descriptive, description of Niagara ever penned was that by Fanny Kemble, whose journal tells of her approach to the brink of the abyss, and closes with the words :

“I saw Niagara,
O God ! who can describe that sight.”

Many minds have essayed to reproduce it poetically, many pens have recorded the impression of visitors regarding it, without even faintly describing it ; for there is no known rhythm whose cadence will attune itself to the tremendous hymn of this "sound of many waters," neither will blank verse serve to rehearse its attributes in song. The best specimen of the latter was written by a gifted poet, who visited this locality especially to set forth its beauties in verse, but who recorded only the following words :

I came to see,
I thought to write,
I am but dumb.

There is but one way to record, either in prose or in poetry, the fascinations of Niagara ; that is, to tell of its glories in that simple language which is the Creator's greatest gift to man.

In prose, to record, not the sensations which the visitor feels, or believes he feels, as each new scene of grandeur bursts on his sight, but, as nearly as may be in words, the exact descriptions of what the eye at the moment sees, whether that be the gorge or the rapids below the Falls, the Falls themselves, or the rapids above them.

Many visitors, yes, and persons of trained artistic sense, say they prefer the views of the rapids to those of the Falls themselves, as being less emblematic of overpowering force, yet none the less representative of ever-changing beauty, and, above all, as being more comprehensible to the God-given, yet limited, human mind.

In poetry, to describe it, if indeed that can be done, as a part of that stupendous and eternal poem, whose strophes and lines are the rivers, mountains, glens, caves and rainbows of the universe, for of Nature in its grandest and most varied forms Niagara is a condensation and an exemplification.

But while much has been written — attempted probably on the lines indicated — a good deal of prose that is worth reading and a very little poetry that is worth remembering ; it is of Niagara as a whole, as a unit, in its generality, in its comprehensiveness ; treating the water, the Falls, the rapids, the gorge, the sky line of the river as seen from the brink of the Horse-shoe, the spray, the rainbows, and the islands as component parts of one absorbing whole, that almost all writers have treated.

Some of them specially mention Goat Island, which is an integral part of Niagara, and which has been described in prose as “the most interesting spot in all America,” and in poetry as “the fairest spot God ever made” ; others, and they are in the vast majority, refer to it only as an incident. Niagara Falls have never elicited a strong poem from any poet of the first rank.

Some men, like Doré, have pictured the Cataract without ever having seen it ; others, like Brainard, have written poetic effusions without ever having beheld it ; but no important description of Niagara has ever been penned by one who has never gazed thereon and who has not felt the sensation occasioned by the first view thereof ; and certainly no one has ever written anything of real enduring merit

about Niagara in any one of its numerous phases which combine to form its transcendent whole, without having visited it, studied it in all its varied aspects, and been held enthralled by its spell.

Above the Falls, Niagara has, in her rapids, examples of many of the most remarkable combinations of Nature's work ; and those who visit here can experience all the pleasure of the mariner, in standing on the Goat Island Bridge, knowing that an almost irresistible billowy force is fighting against that structure, situated near the edge of the gulf into which the river pours, and that they are still as safe as they could be on *terra firma*. It is a feeling that could not be reproduced in any other situation. One seems, when stationed at this point and looking down stream, to be on the verge of eternity ; should the bridge give way, he would, in a few moments, be carried over the cliff, and lost ! Yet the stability of the bridge removes all sense of danger, and compels confidence even in the presence of the dread power of the current.

Iceland has splendid geysers, sending up heavy clouds of vapor from its boiling springs, surrounded by ice. The Matterhorn has its magnificent "*Arc-en-ciel*," which vies with the finest rainbows in splendor ; and from the summits of the Alps one can look down upon the tops of trees which, from below, are of high altitude. Here all these and other yet more remarkable effects are brought together at one point. England on the south coast and France on the north coast are both proud of their splendid beetling cliffs, between which rolls the majestic current of the English Channel.

At Niagara, similar but equally imposing cliffs are brought together in close proximity, and form the boundaries of a river which, receiving its waters from the cataract, concentrate their mighty force into a turbulent flood, upon which one cannot look without allowing the mind to compare it with the Styx of the ancients. And yet this avalanche of power meets with an effectual stop in its career at the "whirlpool," where its course is violently turned aside at an angle of ninety degrees, thus forming a veritable maelstrom such as cannot be found in any other portion of the globe for strength of current and obstinacy of opposing forces. Thus it would appear that Nature had exhausted her resources in placing at this point, between two countries, a dividing line which deserved to be regarded as impassable. Further, she has reversed the usual order of her works, to command the reverence and awe of humanity. Taking her fair coronet of rainbows from the skies, she sets it in the midst of a river-fall ; planting her high trees at the base of the cliffs, she causes their summits to be viewed from above ; providing an almost inconceivable avalanche of waters, she allows them to be observed from below, as if pouring from the clouds ; and in the coldest seasons, without the aid of heat, a mighty cloud of vapor rises, and, condensing in the form of ice on all the surrounding scenery, forms a fairyland of scenic effect which is as weird and strange in its conception as the works of enchantment. Yet the mind of man has refused to be subdued by the grandeur here displayed, and has calmly proceeded to utilize the very faces of the cliffs for the purpose of supporting bridges to

act as connecting links between the two countries which the river seems solely intended to separate; and across them the *iron horse* deliberately conveys the products of human industry to and from each land.

There is no point on the earth's surface from which an entire idea of human existence can be more adequately conceived than from the center of the Railroad Steel Arch Bridge, which in the distance appears as a mere web between the two cliffs, although solid and substantial as man's ingenuity can make it. There, suspended in mid-air, between precipices enclosing a terrifying chasm, through which rushes the mighty flood, it is impossible to stand without experiencing that feeling of enthusiasm connected with the assumption that the Creation contains no power too great for human control. Yet, when the heavily-laden freight trains cause the fabric to vibrate, the possibility of the breaking of the bridge seems so near, and total destruction in that event so certain, that the feeling of exultation is allied with that of fear, recalling the idea of standing face to face with eternity.

Niagara Falls, N. Y., with a population of 22,000 (which has doubled in the last ten years), is a great manufacturing city. Its wonderful scenery, immediately adjacent to the Falls, protected by the establishment of the New York State Reservation, can never be encroached upon.

Its founders named it Manchester, and, while that name was soon abandoned for the present one, their foresight of its capabilities in a manufacturing way has of late been fully justified.

TO THE VISITOR.

Here, at the very beginning, let me say that this guide is intended to be unique. It is issued solely in the interest of the visitor. It contains no advertisements whatever, and its author has no financial interest of any kind in any point or company where tolls are charged or fares collected.

It is believed to be unquestionably the most complete and the best illustrated guide to Niagara ever published, and it tells about Niagara in all of its varied aspects.

A great lawyer was once asked if the legal profession was not greatly overcrowded. "There is plenty of room at the top," was his answer. It is on this line, that among the many so-called guides to Niagara — all incomplete and inaccurate — there is plenty of demand for a complete, impartial and accurate one, that this is published.

People are distinctly advised that if they want to really see and comprehend Niagara they must devote time to it. But it is recognized as a fact that the great majority of visitors to Niagara are obliged, or at least feel compelled, to see it in one day. Hence this guide aims to show them how to do it as thoroughly and as economically as possible in that length of time.

For those who care to make the expenditure, the entire itinerary herein recommended, with the excep-

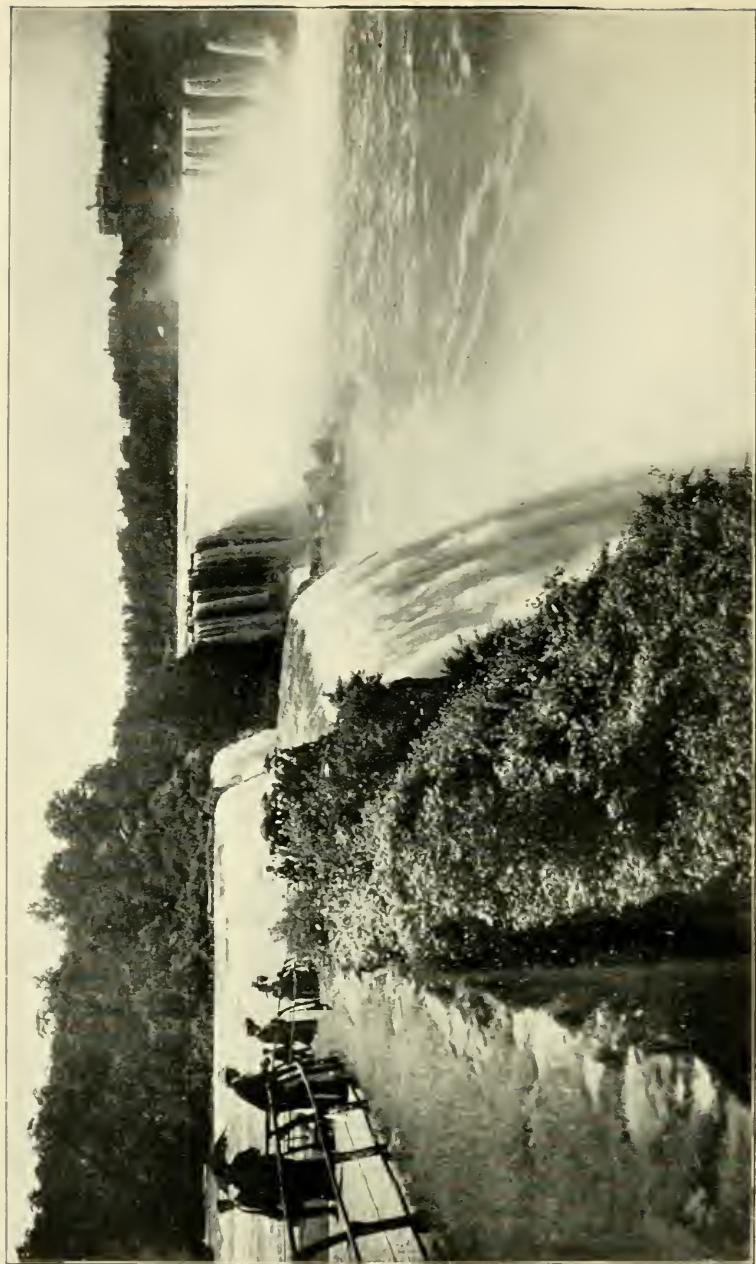


PROSPECT POINT, AT THE BRINK OF AMERICAN FALL.

tion of the trip along the water's edge on the American side in the Gorge, can be done fully as well, probably as expeditiously, and certainly with greater comfort, in a carriage. In this way one entirely escapes the crowding and the bustle inseparable from the crowds of excursionists who, particularly on the electric cars, are a prominent and a daily feature of Niagara's summer travel; you can stop at points where the electric cars do not stop, and you are not obliged to await the advent of a car when you are ready to proceed. It is wise for all those to whom a quiet, peaceful trip about Niagara is of far more importance than the expenditure of a few dollars, to note this fact carefully. Further, the hire of a carriage for all day will probably be the same whether occupied by one or more persons, so if there are four in your party, the increased expense is not so great.

Also let me quote the expressions of two well-known authors, as to the desirability of not seeing Niagara hurriedly.

"People who come to see the Falls and run hurriedly around them for a few hours and then away, can form no idea of their magnitude and sublimity. It requires time to realize their wonderful beauty and grandeur"; and "days should be spent here in deep and happy seclusion, protected from the burning heat of the sun and regaled by lovely scenes of Nature and the music of the sweetest waters, and in fellowship, at will, with the mighty Falls. Long, long, I stayed, but all time was too short. I went and I returned, and knew not how to go."



NIAGARA, FROM HENNEPIN'S VIEW.

SCENIC NIAGARA

PROSPECT POINT.

No matter how the visitor reaches the City of Niagara Falls, whether by steam or by electric railroad, whether from east, west or north (the unnavigable portion of the river lies to the south), the first point of interest he visits should be Prospect Point, situated at the northern end of the American Fall, in the New York State Reservation, and he will at once comprehend the geographical situation of Niagara.

This point is 515 feet above the sea level at Governor's Island in New York Bay.

As you stand, then, on Prospect Point and look across the American Rapids towards Goat Island you are facing almost due south. The American Fall commences directly at your feet. At its other end is the Goat Island Group. Beyond Goat Island is the Horse-shoe Fall. At your left, upstream, are the American Rapids, and on your right, below you, lies the Niagara Gorge, which the ceaseless flow of Niagara during many thousands of years has carved and hewn out of the solid rock, an illustration of the incomprehensible power of the grandest waterfall on earth. It extends northwards for seven miles, and is clearly visible from Prospect Point nearly as far as the Whirlpool, two miles away, where it bends to the left, and at the pool turns a right angle in its course.



ICE SCENERY IN PROSPECT PARK.

HENNEPIN'S VIEW.

First of all, follow the path which runs on an upward grade down stream, along the iron railing on the edge of the bluff, until you reach the point known as Hennepin's View, so named in honor of the Franciscan priest who gave the first description of Niagara. The view here is changed so that you not only see both Falls in the foreground, but gaze at the edge of the American Fall, whose brink is a number of feet below you.

Return to the Point, turn to your left, and, starting upstream, commence your itinerary of Niagara.

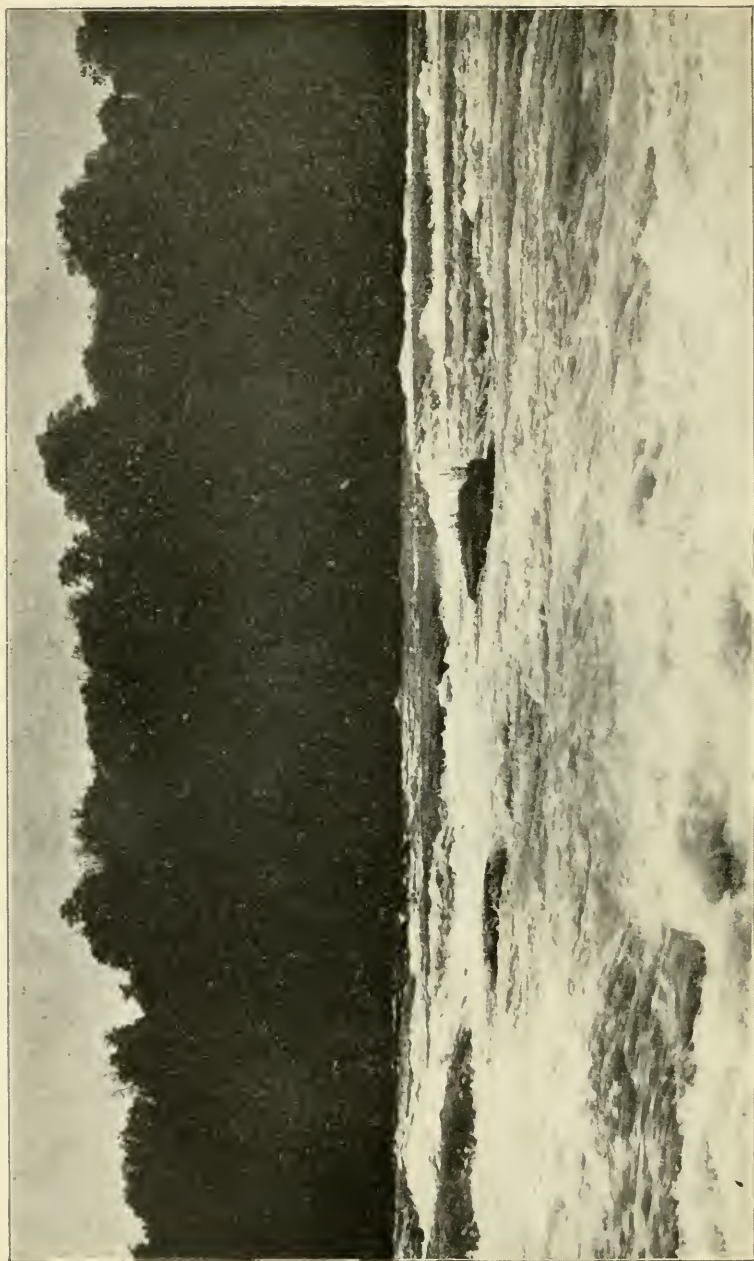
The annexed sketch is from a photo taken about 1860, and represents "Bossy Simms," whose owner

was for many years the superintendent of the Inclined Railway, close by, and lived near it.

The spot where she stands is not over 100 feet from the edge of the American Fall, and the sight of this gentle "bossy," who used frequently in summer to wade out to the dangerous place,



with no more evidence of appreciation of danger than she used to feel when she stood in the bed of some inland shallow creek, was a curious attraction to many a visitor of that day.



EVERY'S ROCK AND AMERICAN RAPIDS.

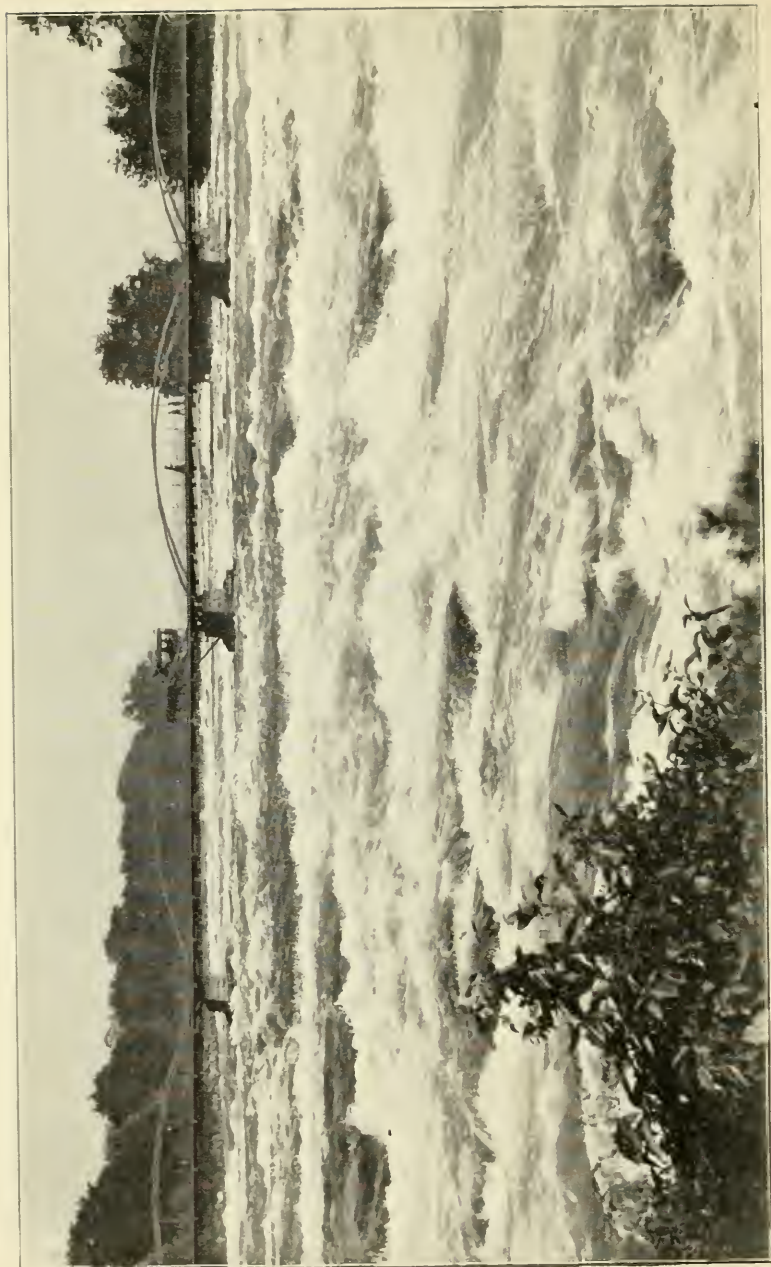
THE AMERICAN RAPIDS.

Up the river from the American Fall, to and above the Goat Island Bridge, lie the so-called American Rapids, the most beautiful bit of what may be termed the smaller and, therefore, the more comprehensible Rapids of Niagara.

Following the shore line, let us walk slowly up the bank noting the many-sided views of the rapids as we proceed. As we reach the road that comes down the hill from the Soldiers' Monument on the left, look back along the path toward the Falls and you will be able to form some idea of the beauties of Niagara's winter scenery, as shown in the accompanying view taken from this spot.

A little farther along, turning toward Goat Island, a flat, dark rock appears in the center of the rapids. This is called Avery's Rock, and was the scene of a deplorable occurrence on July 17, 1853.

Early in the morning of that day a man was discovered clinging to this rock. He proved to be one Samuel Avery, who, in the evening before, while trying to cross the river above Goat Island, had been drawn by the current into the rapids; his boat had been carried over the Fall, but he, by a thousand-to-one chance, had been washed against, and clung to, this rock. The news sped like wildfire, and from within a radius of fifty miles people flocked to the scene. A huge sign bearing the words "We will save you" was quickly set up on the shore, where we are standing. Boats were hurriedly carried to the Goat Island Bridge and, fastened to long ropes, were lowered



GOAT ISLAND BRIDGE AND AMERICAN RAPIDS.

toward the rock. Several of these boats were dashed to pieces, others were swamped. Food was lowered to him in wooden boxes, by means of ropes from the bridge, one box reaching him safely. Late in the afternoon a raft was constructed and safely lowered to this rock, but stuck on a projecting rock alongside. Avery mounted it but it could not be drawn from the rock. Another boat was lowered. It safely touched the raft. Avery, weak from his long vigil and exposure, rose up and approached the edge of the raft to get into it. His weight tilted the raft. He lost his balance, failed to catch the edge of the boat, fell into the rapids, and, uttering an agonizing shriek, was carried over the Fall, after an heroic fight for life lasting nearly twenty-four hours.

Prior to the establishment of the State Reservation, all the present grassy slope on our left, lying between the road that we just passed and Goat Island Bridge, as well as the river shore from that bridge to the head of the rapids, was covered with mills and other unsightly structures. At no other point has the restoration of the natural scenery been more pronounced, nor the result been more beneficial, than right along this shore.

BRIDGES TO GOAT ISLAND.

Up stream from where we are standing is the new Goat Island Bridge, just completed. This is the fourth bridge to Goat Island, and the third erected at this point. The first bridge to Goat Island was erected some fifty rods farther up stream, and was

a comparatively small affair, built in 1817. The masses of ice coming down the river that winter struck against the piers of the bridge with such force as to demolish it ; but the Goat Island owners, with the perseverance of New Englanders, determined at once to erect another bridge, but selected the present site, rightly judging that the intervening descent of the river would so break up the masses of ice as to render the bridge comparatively safe ; and this proved to be the case.

This bridge, erected in 1818, stood until 1855, when it was replaced by an iron-arch structure, which satisfied all demands of travel until 1900, when the present magnificent structure was authorized by the State of New York.

In reply to the oft asked question, How were these bridges built ? Let me answer : Two giant trees, about eighty feet long, were felled in the vicinity and hewed square on two opposite sides. A level platform, protected on the river side by cribbing, was built on the main shore. The two logs, parallel and some eight feet apart, were laid on rollers, and, with their shore ends heavily weighted with stone, were pushed out over the rapids. On each log a man walked out to the end, carrying with him a sharp iron-pointed staff. A crevice in the rocky bed of the river having been found under the end of each of these logs, the staff was driven down into it, and to it the end of the log was firmly lashed. Planks were then nailed on these logs and on this bridge stones were dragged out and laid in a pier, around these staves and under the end of either log, until a rocky foundation supported

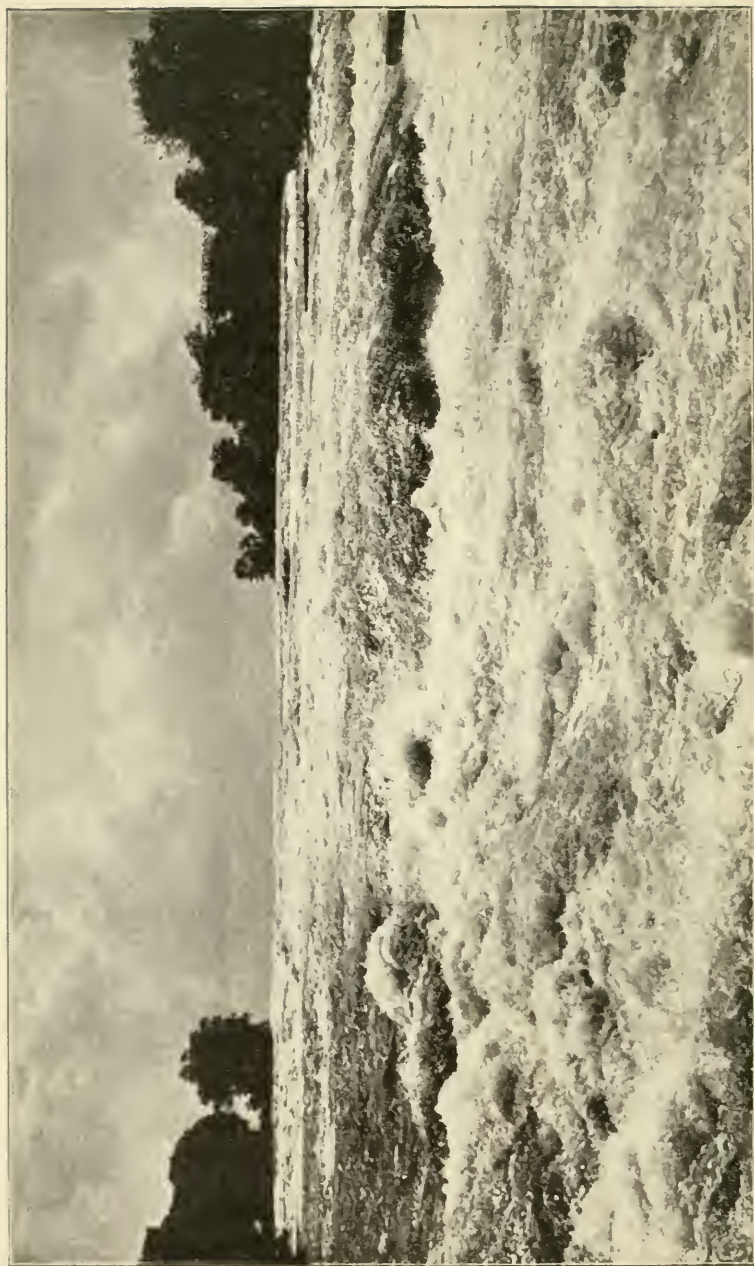
both timbers. Each succeeding span was then built in a like manner. While the bridge was in process of construction, Red Jacket, the famous Seneca Indian, was on the bank, an interested spectator. As the first span was successfully completed and the erection of the bridge thus assured, some one asked him what he thought of it. Rising majestically, and drawing his blanket close about him, he muttered: "Damned Yankee," and stalked away.

Thus Goat Island was accessible to the public; and in 1818, on the completion of the bridge, was made the first road around it. On the western and southern sides of the island it was built out beyond the upper edge of the land of to-day; for since that date some four rods in width on the western side and nearly ten rods in width on the western half of the southern side of the island have been washed away.

AN IDEAL VIEW.

Directly in front of us, and to the left, up stream, is that fan-shaped wave that comes tumbling over a vast flat rock. This point was considered by the late William M. Hunt as the epitome of Niagara; and was the view that he selected in preference to all others when he was asked to decorate the huge panels in the Assembly Chamber at Albany, this being his idea of scenic Niagara. He died before his sketches for the work were fully completed.

For those who have time, it is well to loiter on the bridge and gaze upon the views both up and down stream.



AMERICAN RAPIDS ABOVE GOAT ISLAND BRIDGE.

THE UPPER RAPIDS.

To many, as one stands and looks up stream from this bridge, the view is the most beautiful at Niagara. Let me quote Margaret Fuller's description of this view : "At last, slowly and thoughtfully, I walked down to the bridge leading to Goat Island, and when I stood upon this frail support, and saw a quarter of a mile of tumbling, rushing rapids, and heard their everlasting roar, my emotions overpowered me, a choking sensation rose to my throat, a thrill rushed through my veins, 'my blood ran rippling to my fingers' ends.' This was the climax of the effect which the Falls produced upon me—neither the American nor the British Fall moved me as did these rapids. For the magnificence, the sublimity of the latter, I was prepared by descriptions and by paintings."

In the winter of 1829 it is stated that the cold was so intense, and the ice in the river and in the rapids above so thick, that persons were able to cross to Goat Island from the main shore without using the bridges ; a remarkable fact, if true, and a condition which Nature has never vouchsafed us since ; although during the intervening years there have been some remarkably cold periods. In the year 1896, save for one wide break over the deepest channel, a solid mass of ice accumulated below the bridge to Green Island, and between the main shore and the smaller islands and Goat Island, on which many persons walked daily for nearly a week. And one man drove in a cutter one afternoon from Green Island down almost to the edge of the American Fall.

THE GOAT ISLAND GROUP.

Goat Island, as the words are ordinarily used, means the group of islands and islets situated between the American and Canadian Rapids, at the verge of, and just above, the Falls of Niagara. This group consists of Goat Island, which is half a mile long and a quarter of a mile broad, running to a point at its eastern end, comprising seventy acres, and sixteen other islands or masses of rock, varying in size from an average of 400 feet to ten feet in diameter.

Five of these islands and the Terrapin Rocks are connected with Goat Island by bridges. Many years ago the two small islands above Green Island were also thus accessible. As Goat Island divides the Falls themselves, so it divides with them the interest of visitors ; for it is *the* one spot at Niagara. If only one point here were to be visited, that one spot, beyond all question, should be Goat Island.

The group embraces over two-thirds of the acreage, and by reason of its location is by far the most important part of the New York State Reservation at Niagara.

“ It is a paradise ; I do not believe there is a spot in the world which within the same space comprises so much grandeur and beauty.” This expression by a Boston divine, seventy years ago, is but a condensation of what many others since then have verbally expressed, in longer, but certainly in no more forcible, words.

“ The walk about Goat Island at Niagara Falls is probably unsurpassed in the world for wonder and

beauty," wrote Charles Dudley Warner, and the judgment of the world agrees with him.

GREEN ISLAND.

The little island at the end of the first bridge, now known as Green Island, in compliment to the President of the Board of Commissioners of the State Reservation at Niagara, who has been a member of that Board since its formation in 1883, and its President since 1890, was formerly known as Bath Island, by reason of the world-famed current baths, the first places erected where one could safely dip oneself in the running waters of Niagara. Up stream from Green Island are two little islands which in former days were connected with Goat Island by bridges; the bridge to the first one being called "Lovers' Bridge." The bridge was short and not very wide, and, needless to state, from its name was well patronized. So much so, that it was deemed unsafe. It cannot be conceived that those owners of Goat Island thought that by removing the bridge they could any more stop the course of true love than they could dam the Niagara River, and the deduction is that finding it so popular they thought that by removing the bridge they could turn the entire Goat Island group into a lovers' paradise, which it has been ever since.

These two small islands were called, respectively, Ship Island and Brig Island, by reason of a fancied resemblance, as seen from the bridge, to such vessels, the leafless trees in winter suggesting bare masts.

On Green Island stood for many years what was perhaps the ugliest building ever built at Niagara, and probably one which had the greatest influence in starting the movement for a restoration of Niagara to its former unmarred natural state. This building, a paper mill, not only increased the size of the island by continual additions, but by running long piers out into the rapids, for the purpose of collecting the water, marred the beauty not only on the island itself but particularly on the river above. It was removed by the State, on its acquisition of the property in 1885.

GOAT ISLAND.

Let us now stroll over the second and recently erected bridge, and we stand upon Goat Island,



THE ZIGZAG STEPS.

aptly referred to as "the fairest spot God ever made." Taking the zigzag steps up the hill to our right we reach the top of the bank, and immediately before us is the shelter house erected for the protection of visitors in stormy weather. Goat

Island is almost entirely covered with an absolutely unique piece of virgin forest, where no axe has ever been wielded. Study it constantly, and enjoy it, while you are making the circuit of the island, for in the words of Longfellow, "This is the forest primeval."

STEDMAN'S BLUFF.

From here, following the path that winds along the upper edge of the bank, let us walk leisurely along, taking in the scenery of the river as seen through the foliage—and the forest beauty as seen on all sides—until we reach the northwesterly edge of the bank of Goat Island, Stedman's Bluff as it is called, where a glorious panorama bursts upon us, the same general view that we had when we stood on Prospect Point, and yet so different, because it is at the other edge of the same Fall. No finer view looking down the gorge of the river is to be had at Niagara.

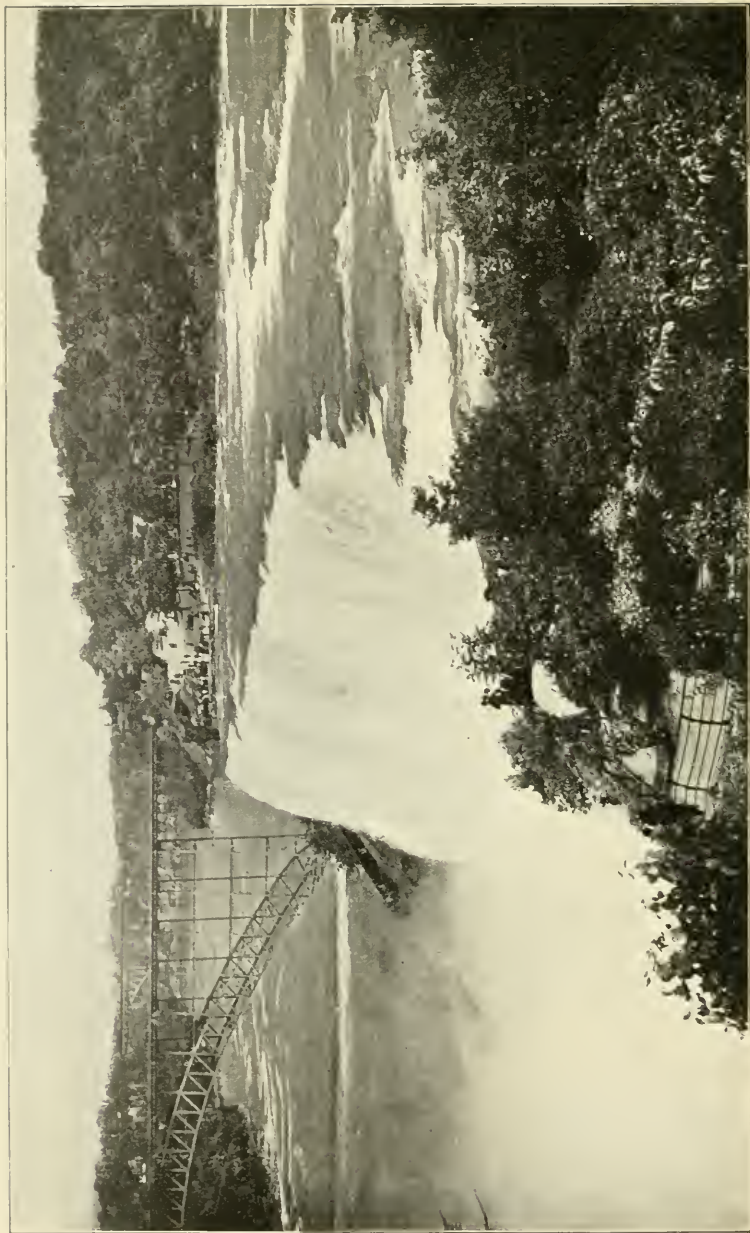
The irregular line of the American Fall is better appreciated from here than it was from Prospect Point. The American Fall is 1,100 feet in width and 165 feet in height, being some six feet higher than the Horseshoe Fall.

THE THREE PROFILES.

Standing on the bluff, at the head of the stairs, and facing



A SHADED WALK.



AMERICAN FALLS, FROM STEEDMAN'S BLUFF.

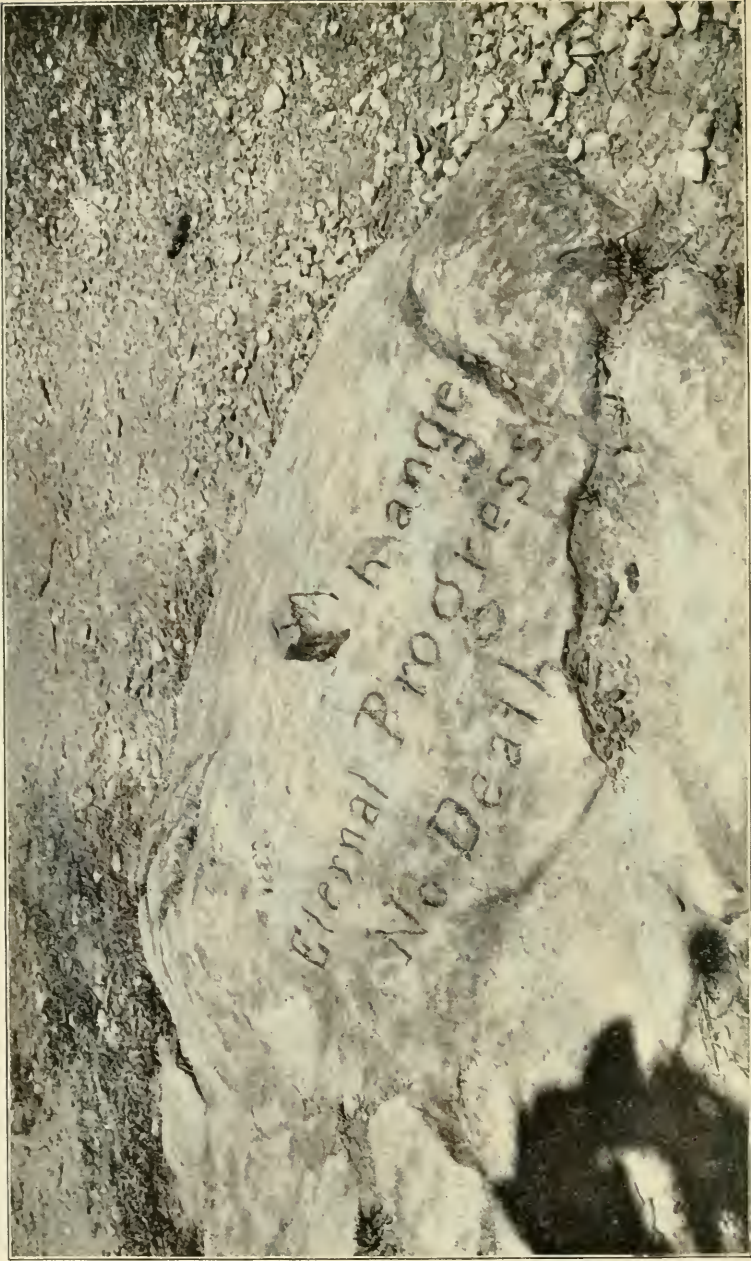
Luna Island, imaginative people used to be able to trace the outlines of three human faces, formed on the rocky face of Luna Island cliff, near the top, just beyond the small fall. The growth of the foliage has tended to obscure them, and the falling of pieces of rock from the face of the cliff each spring has practically obliterated them.

LUNA ISLAND.

Down the broad stone steps, completed only last year, and which are protected by an iron guard rail, let us descend to one of the points of view near the foot of these steps and again take in the scenery. Let us cross the bridge that spans the little stream whose fall forms the Cave of the Winds, and we are on Luna Island, which derived its name from the fact that it was, at an early date, the most accessible place from which to view the lunar bow. Now make your way toward the edge of the larger Fall. Half way between the bridge and the point, at our feet, lies an imbedded rock. Stop for a minute and look at it and compare it with the annexed print. On this, many, many years ago, an unknown, but patient, hand has carved the historic words :

“All is change.
Eternal progress.
No death.”

Who carved them no one knows, and where he lies interred is a mystery ; but here, in full view of countless thousands of annual visitors, stands his epitaph,



IMBEDDED ROCK IN PATH ON LUNA ISLAND.

and the ceaseless roar of Niagara sings for him a grand and everlasting requiem.

Come with us next to the exact point, at the edge of the Fall, and stand close to the railing and look down upon the wave-washed rocks below, extending along the entire front of the American Fall; and again enjoy, this time with the waters of Niagara close at our feet, the wonderful panorama down the gorge. Directly below in the gorge are seen wooden bridges connecting the various rocks, and on these are seen figures having the semblance of human beings. These are the visitors to the Cave of the Winds, a point which we shall reach in a short time. Gazing across toward Prospect Point, one will fully appreciate



ROBINSON'S DARING FEAT.

the daring of Joel Robinson, who, about 1860, in order to show that even Niagara had no terrors for him (a fact which he had proved in many instances), took his iron-pointed staff in his hands and waded out toward the opposite shore, as shown in the illustration, and planting his staff firmly in a crevice of the rock assumed the pose and motioned to the waiting photographer to take this absolutely unique photograph of an incident at Niagara. As he stood there, not a hundred feet from the brink of the Fall, no human aid could reach him. His life depended on his own self-possession and the protection of



AMERICAN FALLS, FROM LUNA ISLAND.

Providence. A false step on his part meant certain death ; but he safely and successfully posed for the artist and returned unharmed to where we now stand.

NOTED ACCIDENT.

On the northern shore of this island, a few feet above the brink, is a spot of mournful memory. On June 21, 1849, the family of Mr. Deforest of Buffalo, with a friend, Mr. Addington, were viewing the scenery from this point. The party, in fine spirits, were about leaving the island, when Mr. Addington advanced playfully to the little daughter of Mr. Deforest, saying, "I am going to throw you in," at the same time lifting her over the edge of the water. With a sudden impulse of fear, the child sprang from his hands into the river. With a shriek, the young man sprang to save her, but before those on shore had time to speak or even move they had passed over the precipice. The child's body was found the same afternoon in the Cave of the Winds ; and a few days afterward that of the gallant but fated man was likewise recovered and committed to the village cemetery. This is, perhaps, the most touching casualty that ever occurred at the Falls.

THE BIDDLE STAIRS.

Let us retrace our steps from Luna Island over the bridge, up the long stone steps, and when we have proceeded a short distance along the edge of Goat Island another break in the line of trees shows the

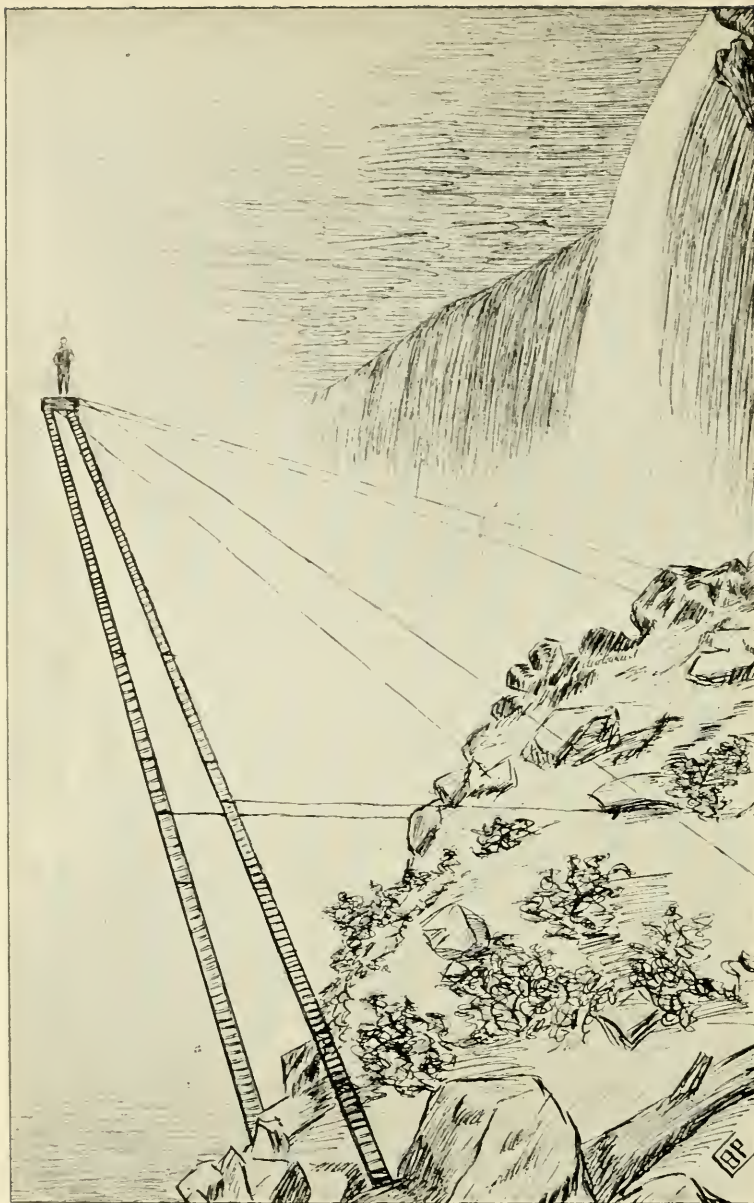


HORSESHOE FALL, FROM TOP OF BIDDLE STAIRS.

Canadian Fall in front of us. Just ahead of us, at the top of the bank, is a wooden building from which a flight of wooden steps leads down to a spiral staircase, whose top is directly beneath us. These are the so-called Biddle Stairs, named after Nicholas Biddle, of United States Bank fame, who suggested this means of access, and offered to contribute a portion of their expense if his ideas were followed. Though his proffered contribution was gratefully declined, his suggestion was carried out, and for over seventy years these winding steps have been the only means of reaching the slope below. By these steps visitors may descend, free of charge, both those who desire to go through the Cave of the Winds as well as those who desire only the sights from the banks below. It has long been felt that this method of descending is too antiquated, for while a journey will most amply repay the exertion, the ascent is tiresome, and to the aged and the infirm this trip is out of the question. It is expected that in the near future, as has already been recommended by the Commissioners, an elevator and more accessible stairs, in both cases running up the perpendicular edge of the cliff, or, according to one suggestion, both cars and steps, on an inclined plane, similar to the plan adopted at Prospect Point, will be erected. The present spiral stairway is eighty feet high and was built in 1829.

THE CAVE OF THE WINDS.

The trip to the Cave of the Winds is the most unique and picturesque at Niagara, and if one desires



SAM PATCH'S LEAP.

to take it he enters one of the dressing rooms in the wooden building before us, after depositing his valuables in the safe at the office. He disrobes and puts on a flannel suit and, if desired, over this an oilskin suit, and thus clad emerges from the dressing room almost unrecognizable by his nearest friends. The trip is one that should not be omitted, and is the most interesting of any at the Falls.

Let us follow the guide, round and round and round, down the inclined stairs until we emerge upon the top of the debris slope, and face down stream. On our right hand, close to us, is the solid, rocky base of Goat Island, and as we glance upward the upper portion projects outward over our head. In the old days, before the island was accessible, even as late as 1790, the island was described as having at its western end a sloping, or "about to fall," appearance. This evidently meant that the upper ledge of rock, which now projects somewhat beyond the base below, simply extended farther out into the gulf in those days.

SAM PATCH'S LEAP.

A point about midway between the foot of the stairs and the entrance to the Cave of the Winds is opposite the site where, in 1829, Sam Patch made his two famous leaps. At the water's edge he erected two huge ladders, each ninety-six feet long, set at right angles to the water, and far apart at their base. Their upper ends converged until they met in a small platform, which overhung the deep water as the ladders canted to the westward. These ladders were



CAVE OF THE WINDS, JANUARY, 1896.

fastened by ropes at their upper ends to the bank above, and also by ropes to great rocks placed on the path where we are standing. They were also stayed by ropes extending up and down stream. Climbing up the ladder to the platform, Patch, whose name is even yet a synonym for high jumping, waved his hand to the crowds assembled on the path, on Prospect Point and on the Canada shore, and, in order to prove his famous expression, "that some things could be done as well as others," placed his arms close to his sides and leaped into space. He descended safely and rose to the surface amid the enthusiasm of the crowds. He repeated the feat successfully a few days afterwards. Later, he made a similar jump of about the same height at the Genesee Falls at Rochester, N. Y. ; but, being in an inebriated condition, lost his balance, struck the water sideways, his body was no doubt caught in the undertow, and did not rise to the surface. It was recovered some days later, miles away.

THE CAVE ITSELF.

Walking along the path we come to the edge of the falling water. Just before we reach it, on our left, is the huge rock, known as "The Rock of Ages."

The impetus of the current carries the sheet of water well out beyond the face of the cliff, and this space between the inner face of the falling water and the rock is known as the "Cave of the Winds."

It was first entered in 1834. The cave is being slightly enlarged annually by the constant force and power of a portion of the water bounding back after



THE CAVE OF THE WINDS.

it strikes the rock at its base, and slowly, but surely, cutting away the shale of which the lower portion of the back part of the cave is formed, gradually undermining the upper ledge of limestone over which the water flows.

In size it is now about 100 feet wide, 160 feet high, and about 100 deep.

If the sun is shining brightly, and you stand between it and the spray cloud, you can see two and often three rainbows; and frequently, when you stand right in the edge of the spray, you are the center of a visible and complete rainbow circle, a phenomenon unknown elsewhere.

Visitors to the cave pass down and into it, behind the small sheet of water, and out again into the sunlight at the base of Luna Island. The trip in front of the little Fall along the solid, annually renewed (for each winter the weight of the ice

destroys them) rough wooden bridges, through the clouds of ever-rising spray, bathing in the little pools among the rocks, where miniature Niagaras form plunge baths unequaled anywhere, and, if the sun is shining, standing in the very center of an entire circle of rainbows, is a unique and beautiful experience.

BELOW TERRAPIN ROCKS.

Going back to the foot of the staircase, let us take a short trip toward the Canadian or Horseshoe Fall, a trip of some difficulty, and one that is taken by but comparatively few people, but which, when taken, amply repays the exertion. Passing along the rough and rocky path we soon come to the huge rocks, which, in ages gone by, undermined by the action of the elements, have fallen from their positions at the top edge of the cliff over which the waters poured, and now obstruct the path toward



END OF HORSESHOE FALL.

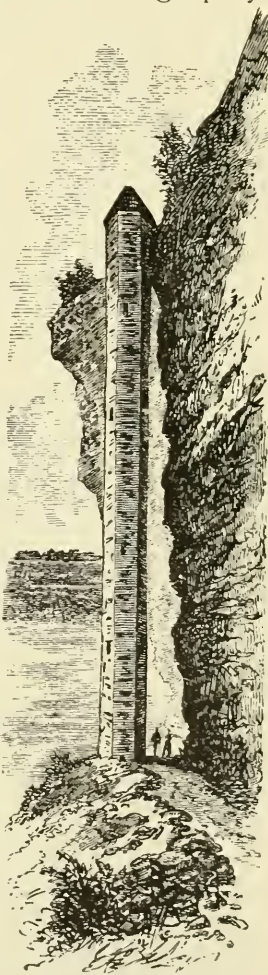


HORSESHOE FALL, FROM BELOW GOAT ISLAND.

the vortex of the falling sheet. Over these rocks and the intervening rapid streams some few adventurous visitors, always with a guide, have climbed. Here went Professor Tyndall, going far around the curve of the Horseshoe Fall, beneath and beyond the Terrapin Rocks to a point where the beating spray shut out all view, and he stood directly in front of Niagara's descending sheet, enveloped in the spray and mist—a point which he described as the “Ultima Thule” of Niagara—a point that has been visited by but very, very few persons of all the millions that have been to Niagara.

AFTER THE ASCENT.

Now let us return and climb those stairs; and, after we have rested, take our way on to the Canadian Fall. We soon come to a break in the line of trees where the bank has evidently caved away, and where it is now protected by a closely-set wooden railing. Forty years ago, at this point, the carriage road was out beyond the edge, where now is empty air, so great has been the landslide here. Looking down from here, one gets the best direct



THE BIDDLE STAIRS.



HORSESHOE FALL, FROM BELOW GOAT ISLAND.

view and direct appreciation of the difference in levels, for the water at this point appears to be very much farther away from you than when you stand on the steel arch bridge just below the Falls, where the distance between the roadway of the bridge and the water is about 200 feet ; and while at this point on Goat Island the distance to the water in the gorge cannot be over 250 feet, it appears to be very much more.

PORTER'S BLUFF.

Farther along, passing through a shaded walk, we stand on one of the most commanding situations at Niagara, Porter's Bluff, so named by the first Board of Commissioners of the State Reservation, in honor of the family which for three generations was the owner of the island, and by whose members, for three score and ten years, the natural beauty of the island was preserved intact and free from money-making defacements and man's so-called improvements. Directly in front of us rises that immense cloud of spray which Niagara is ever sending up in honor of its Great Spirit, and at our feet, beneath us, is the brink of the Horseshoe Fall, whose center not over forty years ago was in such a curve as to give it that name, but which, toward the middle, during these last two score years, has receded so much that it is now a very acute angle.

Do not hurry at this point, but let us sit down and study this view, and you will appreciate the situation and what we may call the geological location of the Falls.



A GOAT ISLAND PATH.

Just consider that the Fall before you is carrying away the waters from the four great upper lakes, whose farthest springs are over 1,500 miles away, and that the watershed of those lakes drains almost half a continent. This Fall is 159

feet high, about 3,000 feet in length, and at the point on the brink where the color is the greenest, there is said to be a depth of twenty feet of water. In 1827, the steamer "Michigan," an unserviceable hulk,



VIEW OF PORTER'S BLUFF.

drawing eighteen feet of water, was purchased and sent over this Fall. She came down the main channel by the Canada shore and passed over this Fall without touching either the rocky bed of the river or the brink of the Fall itself.

Estimates as to the quantity of water going over the two Falls vary, and, of course, are necessarily speculation ; but here are some of them : 100,000,000 tons per hour ; 18,000,000 cubic feet per minute ; 1,500,000,000 cubic feet per hour. In barrels, 1,500,000,000 every twenty-four hours ; which amounts to 200,000,000 per hour, 3,300,000 per minute, or 56,000 per second. Another estimate is 260,000 cubic feet per second. Of course, the amount varies as the river is high or low. These estimates were made by knowing the width of the river at some point below the Falls, measuring the velocity, and estimating the depth. And seven-eighths of all that amount of water is pouring over the Falls before you.

The water power of Niagara is estimated at 3,000,000 horse power, and the great Power Company's tunnel, when running at its full capacity of 120,000 horse power, will use but four per cent. of the water of the river, and it is estimated would lower the water at the crest of Horseshoe Fall but about four inches.

The boundary line between the United States and Canada runs along the middle of the deepest channel of the river and up the point of the Horseshoe Fall. So the international boundary line at the Falls has changed, and will change, according as the apex of the Horseshoe Fall moves to this side or to that in its recession.

The edge of the Fall, just below us, is believed to have been the point from which the Indian warriors, in ages long gone by, cast into the running waters, above the brink, their sacrifices of weapons of war,



TERRAPIN ROCKS, FROM PORTER'S BLUFF.

and articles of personal adornment, as propitiations to the Great Spirit of Niagara.

The "Fairest Maiden of the Tribe," who steered her white canoe to death, as the Neuters' annual peace offering to the Spirit of Niagara, always sought her fate over the brink, where the water is deepest, of the Fall before you.

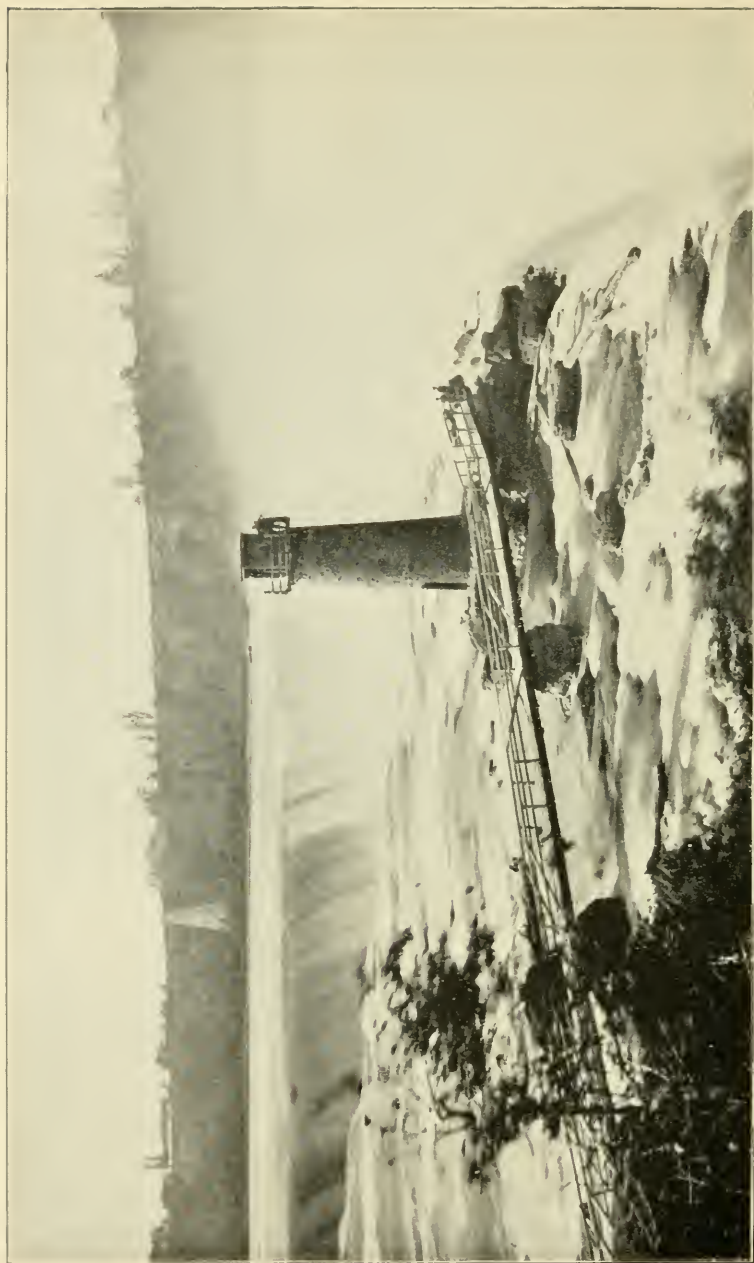
Over this Fall on the night of December 29, 1837, passed the blazing hull of the steamer "Caroline." She was an American boat, moored for the night at Schlosser's Dock, two miles above the Falls. At midnight she was suddenly boarded by a party of British, captured, towed out into the stream, set on fire and sent over the Falls. All this during the Canadian so-called Patriot Rebellion.

THE TERRAPIN ROCKS.

Now let us descend by the wooden stairs and take our way out along the safe, but frail-looking, wooden bridge until we reach its end ; then down the wooden steps and out to the iron railing, and we are gazing down into the gorge below, perhaps surrounded by the ever-rising column of spray, in the scenic and geological center of Niagara.

Why the name Terrapin was applied to these rocks is unknown ; but conjecture says the broad, flat shape of the rocks, as seen from the bluff above on Goat Island, before they were accessible, is responsible for the name.

Nearly opposite, on the Canadian cliff, just below the Falls, stood old Table Rock. In the gorge, at



OLD TERRAPIN TOWER, FROM PORTER'S BLUFF.

the base of Goat Island, is the spot which we just visited, where Sam Patch made his famous leap.

Looking down the gorge, the commencement of the Whirlpool Rapids appear at the lower end, while spanning the gorge, and just before these rapids commence, are the two railroad bridges, and nearer still is the steel arch bridge for trolley cars and foot and carriage passengers.

This is, probably, the best point from which to study the recession of the Falls. Assuming that the average rate of this recession over a period of many centuries has been a foot a year, it will be interesting to note that a thousand years ago the brink of the Fall (for there was, probably, but one fall then, whose channel was the Canadian channel, for Goat Island being then a part of the main shore, there was no American Fall) was about where Luna Island is now. Nineteen hundred years ago, at the commencement of the Christian era, this Fall was at Prospect Point ; 3,000 years ago it was at the upper steel arch bridge. At the date of the creation of man, it was a good half mile beyond this bridge ; 10,000 years ago it was at the cantilever bridge, far down the gorge ; 12,000 years ago it was at the extreme end of the gorge, as seen from here, that is, at the Whirlpool Rapids.

Truly, Niagara Falls are not a thing of yesterday.

THE SCENIC CENTER.

Looking up stream, the main body of the Horse-shoe or Canadian Fall thunders on your right, while on your left ripple the shallow waters as they run



DOWN THE GORGE, FROM TERRAPIN ROCKS.

quietly to the edge of the cataract, beneath the little bridge by which we have just reached this glorious spot. Looking down stream, the gorge is directly beneath you. Goat Island is on your right and beyond it lies the American Fall. No pen picture can pretend to do justice to this point of view on the very edge of the gulf.

Gaze on the views all around you, for this is the scene you have come to see ; this is the Mecca of your journey. This is the very scenic and geographic center of Niagara. Satisfy yourself as far as possible, and then reluctantly turn away.

From these rocks Niagara by moonlight is a dream of incomparable loveliness, and from here the lunar bow, formed by the light of the moon on the spray, is best seen, as here the spray is heaviest. I have already quoted Margaret Fuller's views on the scene from Goat Island Bridge. Let me give her impression as to the moonlight scene at Niagara here :

A QUOTATION.

“ Neither the American nor the British Fall moved me as did these rapids. For the magnificence, the sublimity of the latter I was prepared by descriptions and by paintings. When I arrived in sight of them I merely felt, ‘ Ah, yes, here is the Fall, just as I have seen it in picture.’ When I arrived at the Terrapin Bridge, I expected to be overwhelmed, to retire trembling from this giddy eminence, and gaze with unlimited wonder and awe upon the immense mass rolling on and on, but, somehow or another, I thought



BURNING OF THE STEAMER "CAROLINE."

only of comparing the effect on my mind with what I had read and heard. I looked for a short time, and then with almost a feeling of disappointment, turned to go to the other points of view, to see if I was not mistaken in not feeling any surpassing emotion at this sight. But from the foot of Biddle's Stairs, and the middle of the river, and from below the Table Rock, it was still 'barren, barren all.' And, provoked with my stupidity in feeling most moved in the wrong place, I turned away to the hotel, determined to set off for Buffalo that afternoon. But the stage did not go, and, after nightfall, as there was a splendid moon, I went down to the bridge and leaned over the parapet, where the boiling rapids came down in their might. It was grand, and it was also gorgeous, the yellow rays of the moon made the broken waves appear like auburn tresses twining around the black rocks. But they did not inspire me as before. I felt a foreboding of a mightier emotion rise up and swallow all others, and I passed on to the Terrapin Bridge. Everything was changed, the misty apparition had taken off its many-colored crown which it had worn all day, and a bow of silvery white spanned its summit. The moonlight gave a poetical indefiniteness to the distant parts of the waters, and while the rapids were glancing in her beams, the river below the Falls was black as night, save where the reflection of the sky gave it the appearance of a shield of blued steel. No gaping tourists loitered, eyeing with their glasses, or sketching on cards the hoary locks of the ancient river god. All tended to harmonize with the natural grandeur of the scene. I gazed long. I saw how



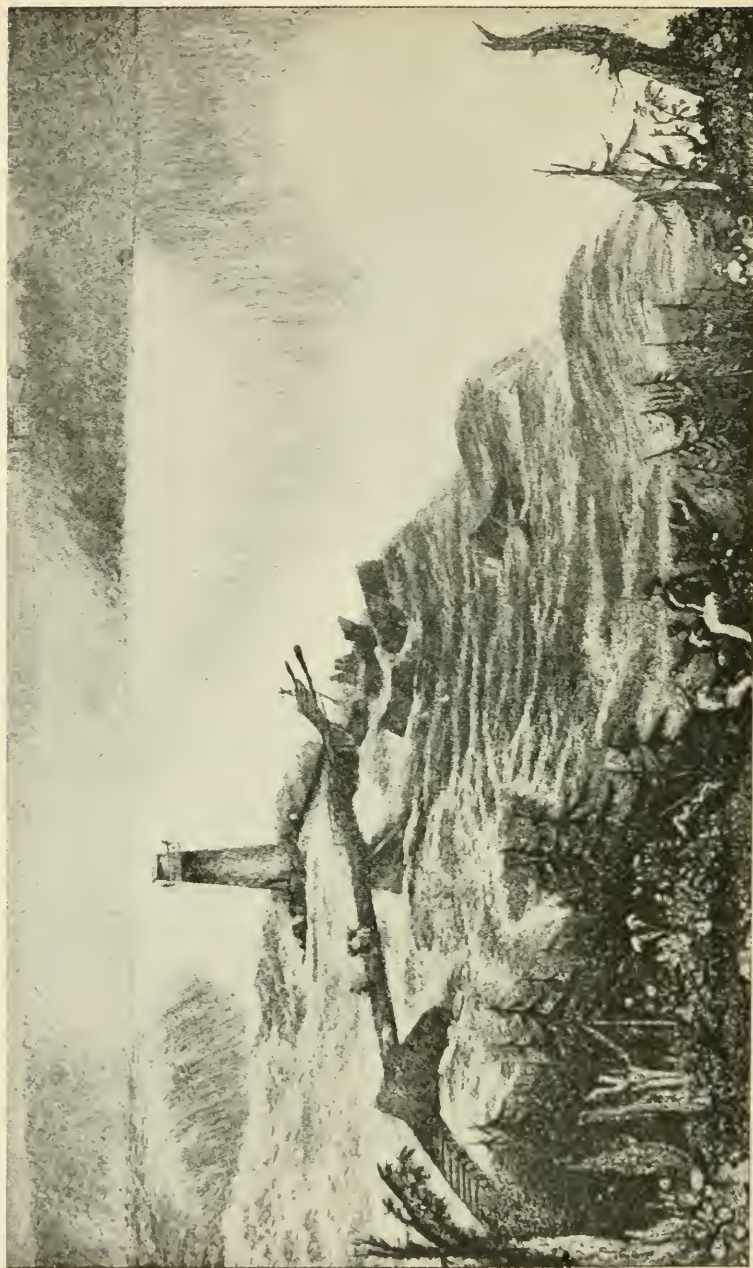
THE MAIDEN'S SACRIFICE.

here mutability and unchangeableness were united. I surveyed the conspiring waters rushing against the rocky ledge to overthrow it at one mad plunge, till, like toppling ambition, o'erleaping themselves, they fall on 'tother side, expanding into foam ere they reach the deep channel where they creep submissively away. Then rose in my breast a genuine admiration, and a humble adoration of the Being who was the architect of this and of all. Happy were the first discoverers of Niagara, those who could come un-awares upon this view and upon that, whose feelings were entirely their own."

BLONDIN'S WISH.

It was from these rocks that Blondin, the world-famous ropewalker, wanted, above all other points at Niagara, to fasten one end of his rope and to stretch it from here across the gorge to the other end of this same Fall on the Canadian shore, and thus directly in front of Niagara Falls, directly above the ever foam-capped waves at its base, enveloped and shrouded in the ever-rising column of spray, to pass from shore to shore across a four-inch hempen cord in full view of the thousands that, especially if he walked at this point, would throng to see him risk his life.

But the owners of Goat Island would not consent to be parties to such a plan, and absolutely refused permission, so he reluctantly abandoned his cherished hope and stretched his rope across the gorge a little way down stream from the site of the present steel arch bridge.



FIRST TERRAPIN BRIDGE.

TERRAPIN TOWER.

On this point, or rather on these rocks, stood for many years what was known as the Old Terrapin Tower, a rude, circular structure, built from the wave-washed stones found hereabouts, some thirty feet in height and twelve feet in outside diameter ; a tower which formed an essential feature in all the pictures of Niagara from 1833 until 1873. Up it ran a winding staircase, by means of which, during that period, many thousands of visitors ascended to its frail balcony and from there feasted their eyes on the scenery about them. This tower in the old days was the center of attraction to all visitors to Niagara, a veritable Mecca ; and no matter from what point or on which side of the river one gazed at the Falls, one was never satisfied until he had reached this spot and mounted the steps of this tower. It was blown up with gunpowder in 1873, not because of its danger, but that it might not prove an attraction contrary to the interests of a company who had bought the land around Prospect Point, which land, so long as it remained in the ownership of the proprietors of Goat Island, was left free to the world. It has been urged upon the Commissioners of the Reservation that it would be appropriate, and a pleasure to those of mature years, as well as a gratification to coming generations, to restore this ancient, and much missed, landmark of the Falls, which in days gone by has delighted so many visitors, and which for nearly half a century was a crude, but not inharmonious, adjunct to the Great Cataract.

FIRST TERRAPIN BRIDGE.

The first bridge from Goat Island to these Rocks, built in 1829, was a slight and unprotected affair, and the logs on which the plank rested extended out some ten feet beyond the edge of the gulf. It was on these logs that Francis Abbott, the Hermit of Niagara — referred to later on — used to walk with a rapid step to the very end and there quickly turning on his heel retrace his steps. It was from these projecting logs, also, that this same eccentric man was accustomed often to suspend himself by his hands, and such was his athletic power that he would draw himself up again and remount the log after hanging over the abyss. Standing on the spot and studying the picture of this old bridge, which is here given, one gets a better and clearer idea of the iron nerve of the man who would dare to perform such foolhardy feats, for every time he lowered himself over the gulf it would seem as though death stared him in the face.

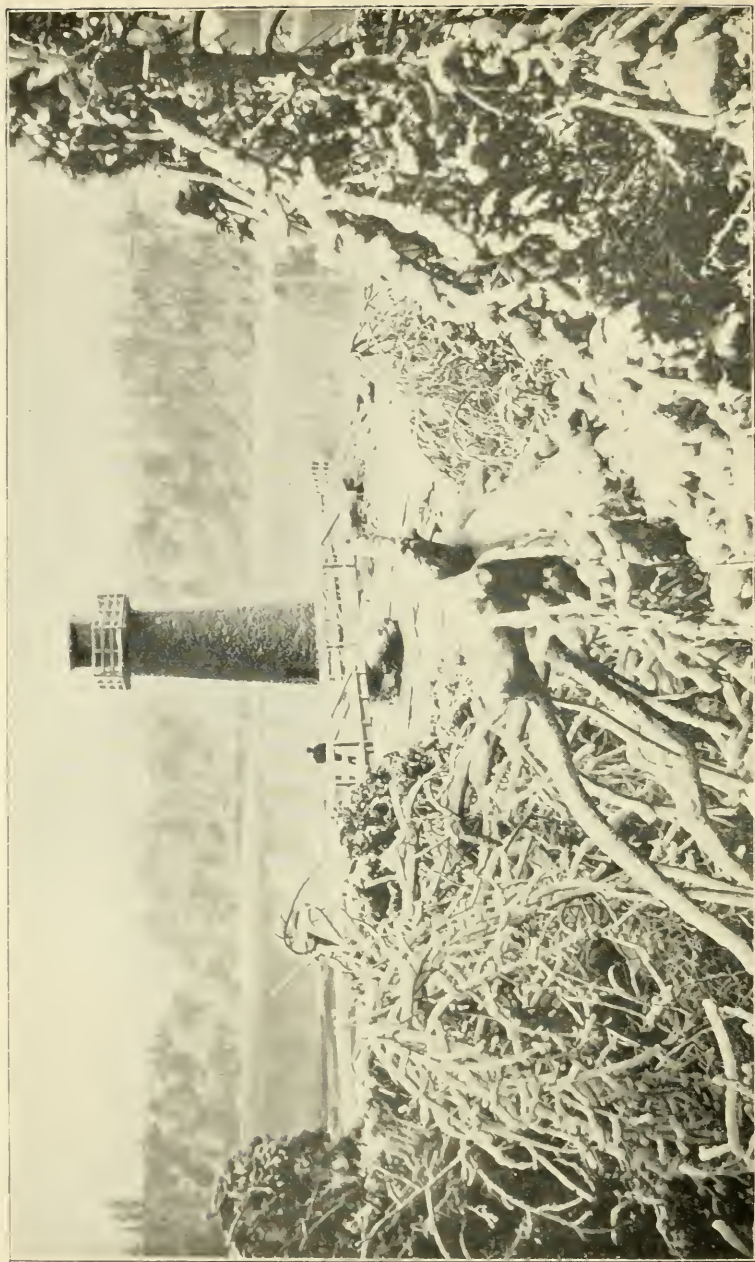
From these Terrapin Rocks, up stream, is seen a similar, though, by reason of the location, not as perfect a view as that to which we shall later refer, in the eloquent words of the Duke of Argyle, of what he describes as the “Shoreless Sea.”

ONCE NIAGARA RAN DRY.

On March 29, 1848, “for that day only,” persons walked in the bed of the rocky channel of the American Rapids between Goat Island and the mainland, and from Goat Island out in the bed of the main channel

towards Canada, and down the bed of the river to the very brink of these Horseshoe Falls, to a point in the then really horseshoe-shaped curve, almost half way to the Canadian shore. But the river was not ice bound ; its flow was diminished, not entirely cut off, its supply at Lake Erie having been temporarily blocked. Lake Erie was then full of floating ice, crowding to its outlet, the source of the Niagara River. During the previous afternoon a strong northeast wind had driven the ice back into the lake. During the night the wind veered suddenly and blew a gale from the west. This forced the ice-floe sharply, in a mass, into the narrow channel or source of the river, quickly blocked it up, and the still advancing ice sealed up this source with a temporary barrier, pushed some feet into the air. It did not take long for the water north of this barrier to drain off, and in the morning, the Niagara River, as men knew it, "was not." The American Fall was dry. The Canadian Fall was a mere shadow of its former self, a few threads or streams of water only falling over the edge. People, fearful every moment of an onrush of water from up stream, walked in the channels, where, up to that time, "the foot of man had never trod," and where it has never trod since.

The roar of Niagara was reduced to a moan ; the spray and, therefore, the rainbows disappeared. All day this phenomenon lasted, but by night the sun's rays and the pressure of Lake Erie's waters had made inroads on the icy dam, and during the night the barrier was swept away. By the next morning the



OLD 'TERRAPIN' TOWER, FROM BELOW PORTER'S BLUFF.

river again rushed by in its might, and its roar once more proclaimed that Niagara had resumed its sway.

Retracing our steps up the wooden stairs, we stand again on the bluff of Goat Island, from which let us follow the road along the bluff beyond the Horseshoe Fall.

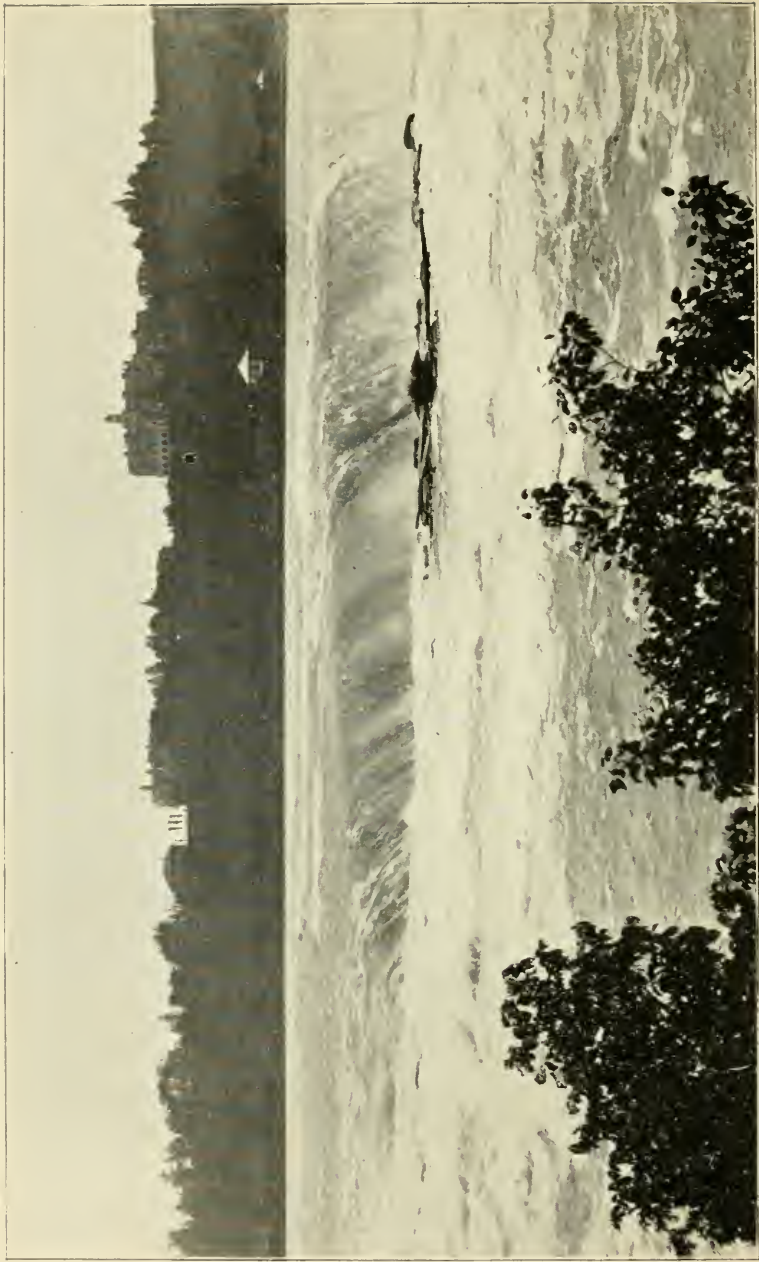
NIAGARA'S RECESSION.

It was in 1842 that the first steps were taken, by Professor Hall of the New York State Survey, to measure the recession of the Falls. He set up stone monuments at certain points, to which reference could be made in later surveys.

Following the path for about forty rods from Porter's Bluff one of these small monuments is directly in the path, though when placed it was in the woods, well away from the road. It is marked with a cross on top, the arms indicating the cardinal points of the compass.

THE CANADIAN RAPIDS.

As we proceed we shall soon come to an open, unobstructed view, and at the right, below us, is the apex of the Horseshoe Fall, the present point of the cataract's greatest erosion; and from this spot we gaze across into Canada, and while the water close to Goat Island is remarkably shallow, close to the Canadian shore are the tumbling rapids of that part of the current where are the swiftest waves and where passes



THE POINT OF NIAGARA'S GREATEST EROSION.

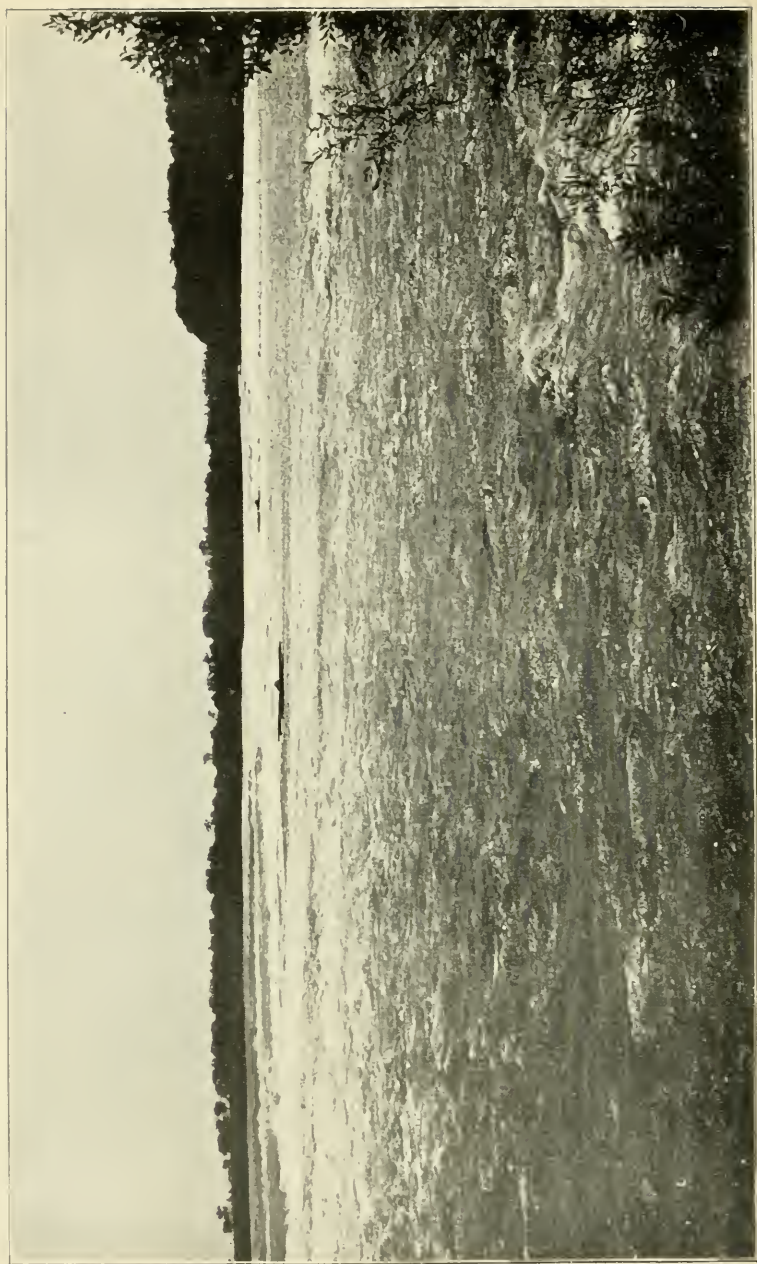
nearly three-fourths of all the water that pours over the Canadian Fall. Far out — possibly half way between Goat Island and the Canadian shore — lies a little speck of land but a few feet in diameter. Three score years ago, we learn from guide books, from maps and from the testimony of living men, there was at this spot an island which embraced more than two acres in extent.

The constant erosion of the water on the edges of the shallow soil, the disintegration thereof, aided by frost and ice, and the submergence by occasional high water, has, bit by bit, worn it away to a mere speck, and the gulls, which years ago made it a constant landing place (from whence it was called Gull Island), now look almost in vain for a foothold on this, their former safe and isolated resting place. Where this island was the water is now very shallow.

Just beyond this point the shore of the island, during the past fifty years, has crumbled away, for some 400 feet in length by nearly twenty feet in width ; the old carriage road having formerly been out beyond where to-day is the edge of the bluff.



THREE SISTER ISLANDS FROM BELOW.



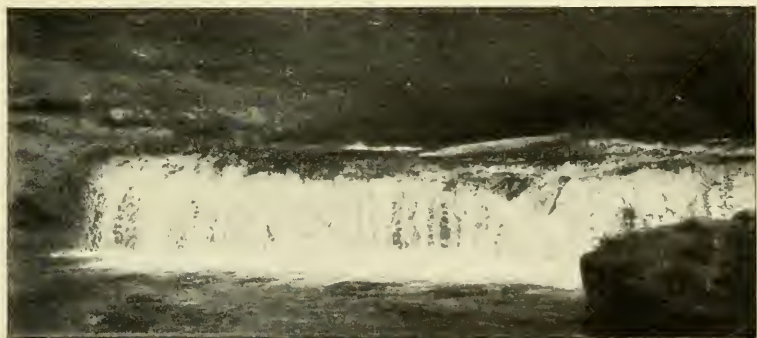
CANADIAN RAPIDS AND GULL ISLAND.

FIRST SISTER ISLAND.

Proceeding again for quite a distance, we reach the massive stone bridge that connects Goat Island with the first Sister Island. Let us pass over it, stopping on it to look down over its upper parapet on to the little cascade beneath, which is known as the Hermit's Cascade, because during his residence on Goat Island this was his daily bathing place. In winter the ice above shuts off all water from this fall. On the first Sister Island, as well as on the other two, are numerous little bits of scenery — ideal views

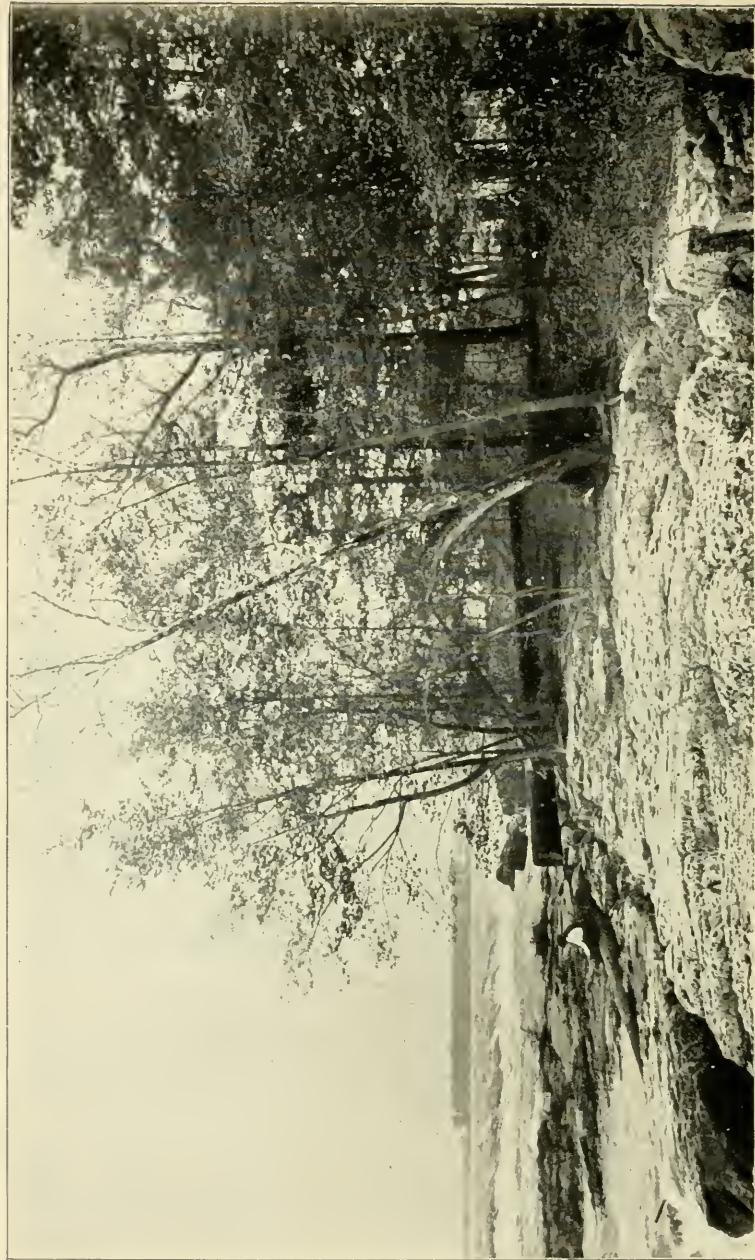


BRIDGE TO FIRST SISTER ISLAND.



THE HERMIT'S CASCADE.

of graceful trees, of sandy beaches, or of rocky slopes and rapid currents — to which it is almost impossible by description to lead the visitor, but which will point themselves out to him, when he know that these little points of vantage exist just off of, and away from, the main paths between the bridges.



UPPER END OF SECOND SISTER ISLAND.

These Three Sister Islands are so called after the three daughters of General Whitney, who were the first women, long before the bridges were built, to make the trip to the outer island, probably during some winter when the water was low. The bridges to them were built in 1869.

SECOND SISTER ISLAND.

The second Sister Island is a rocky shelf, broad and flat at its upper end, and here, when the water of the river is low, one can walk on the rocky ledge above. In and upon this rocky formation, study the effects of the action of the water, and the so-called pot holes, formed by pebbles or small stones brought down by the water and catching in some little depression in the rock, and there, turned and twisted perhaps for years by the current, they gradually wore their own size away and at the same time cut out circular basins in the solid rock itself. Just before reaching the bridge that leads from the second to the third Sister Island, we strongly advise our visitor to turn to the right and descend a little flight of wooden steps, and clambering over a couple of dead trees and a rock or so, to reach a little clearing where are found some of the most beautiful views at the Falls. Right at your feet are the American white tumbling waves, and the boiling waters that are constantly fed by the little cataract over which pours the most rapid stream of any at Niagara ; and no one bit of scenery at the Falls has a more varied scenic effect than this spot, so little known and so admirably portrayed in the



CASCADE, BETWEEN SECOND AND THIRD SISTER ISLAND.

accompanying cut. At the lower end of the third Sister Island is a little unbridged piece of woodland, known as the Little Brother, to which we refer simply because of its beauty and the wonderful effects of light and shade which are here for the first time reproduced in facsimile.

THIRD SISTER ISLAND.

Crossing over to the third Sister Island, we can only say that the visitor must walk over every part of it in order to fully appreciate the scenery. At its upper end one might sit for hours gazing at the ever-changing panorama. Up stream over the little ledge of rocks pour the waters from the peaceful shallow river above. A little way to the right are rushing rapids, and, as the eye follows the line of this ledge extending in an unbroken line toward and well over to Canada, the volume of water and the rapidity of the current increase with the distance. Just in front of this ledge of rock, perhaps 300 feet out in the current from this little island, the water spouts up as it comes pouring over the ledge and dashes against a flat rock. The old-time guides used to delight their hearers with a story that this misnamed "spouting rock," or, in actual words, this column of water, was caused by the water pouring against the old smoke-stack of the steamer "Caroline," which in its descent of the rapids was broken off and caught in some unknown way at this point. The current in the main channel near the Canada shore, opposite here, runs twenty-eight miles an hour.



UPPER END OF THIRD SISTER ISLAND.

CENTURIES HENCE.

A thousand years hence the visitor at Niagara will gaze at the Horseshoe Fall, not from the Terrapin Rocks but from this third Sister Island. The Fall will have worn its way back to the long low cascade that, just above us, extends toward the Canada shore. The gorge at that time and at this point will, of course, be far wider than it is at present, and far

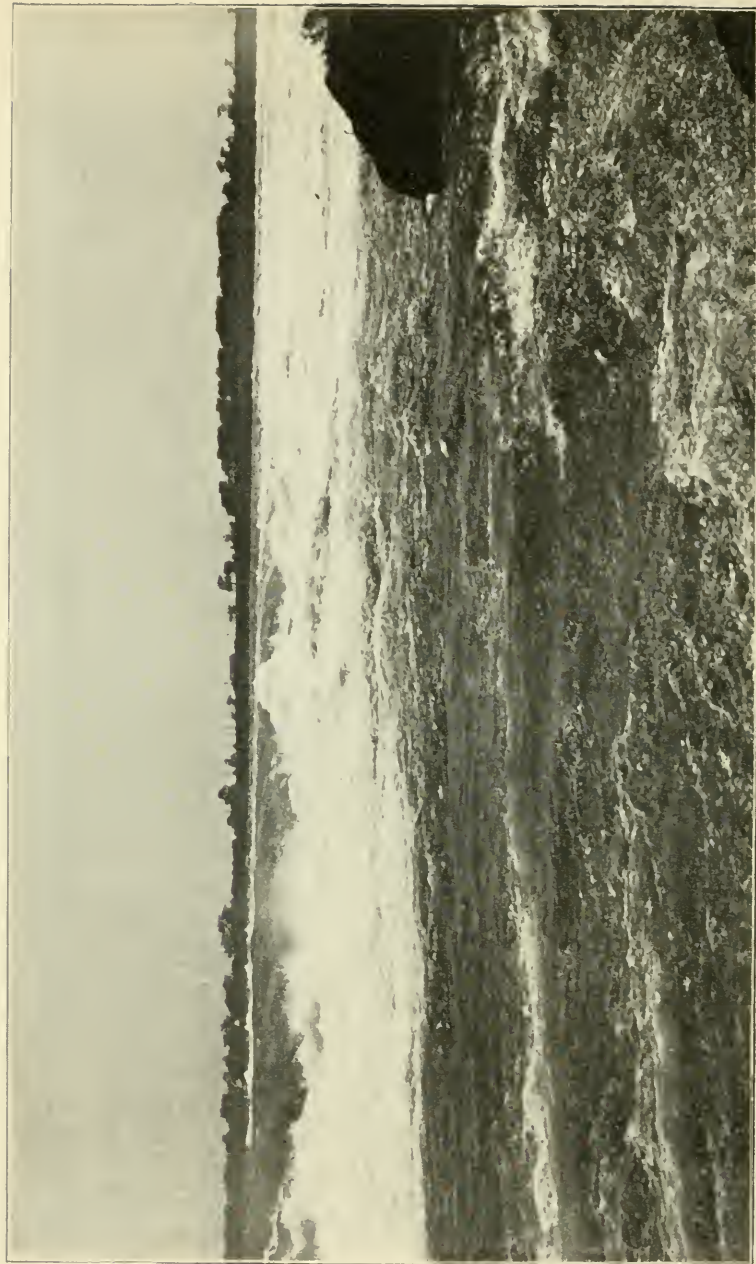


LITTLE BROTHER ISLAND.

grander ; for the Falls, by reason of the declivity of the rocky bed of the rapids, will increase in height as they recede ; and when they reach this point will be over 200 feet in height, a gain in altitude of over fifty feet.

ANOTHER IDEAL VIEW.

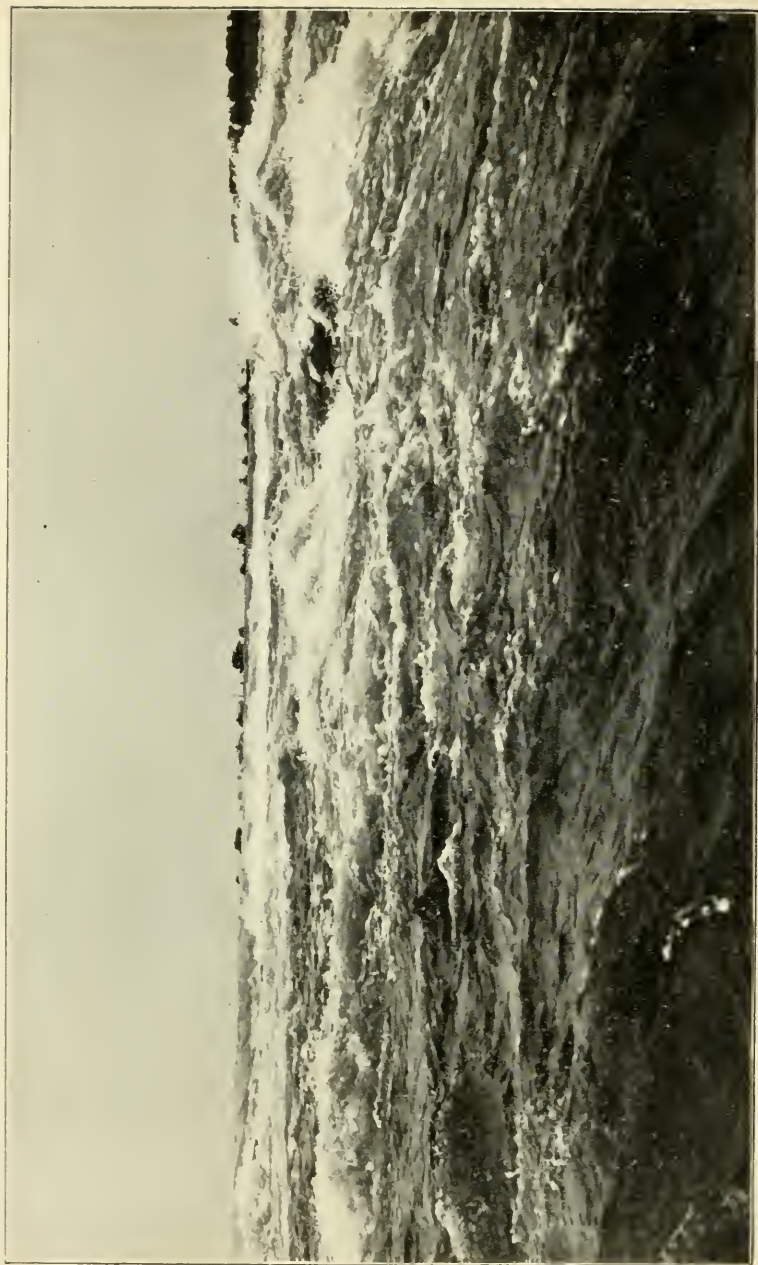
Some years ago Colin Hunter, then an Associate, now a Royal Academician, came over from London to



RAPIDS ABOVE AND BEYOND THIRD SISTER ISLAND.

paint Niagara. Of all the points of view, he selected the one as seen up stream from the head of the Little Brother Island. A temporary bridge was built to it, and here, with a guard at the bridge, so as to be secure from intrusion, he painted his grand view, looking up stream. The upper ledge of rocks, with its long, rapid cascade, was his skyline ; in the foreground were the tumbling rapids ; far to the right of the picture the tops of a few trees appearing on the Canada shore above the waters alone showed the presence of any land.

After satisfying one's self, if, indeed, that is ever possible, with the views from upper end of the third Sister Island, without trying to describe either the glorious scenery or the various points of interest in the short journey, we advise the visitor to clamber over the rocks along the Canadian side of the island, from one end to the other, and whenever a point of vantage occurs, and there are several of them, go out as near the water's edge as possible and you will appreciate the difference that a few feet in a point of observation may make in what is apparently the same scenery. Just before you reach the foot of the island a gnarled cedar tree and a rock, accessible by leaping from stone to stone, gives you access to a point of observation than which there is nothing more beautiful at Niagara. Do not fail to get this view, for it is the Colin Hunter view, as quoted above, as nearly as you can get it, and you will appreciate the artistic sense of the great painter, who chose this incomparable view in preference to the very Falls themselves for a reproduction of the very best at Niagara.



FROM OUTER SIDE, LOWER END OF THIRD SISTER ISLAND,

PARTING OF THE WATERS.

Retracing our steps once more back to Goat Island, and still turning to our right and following along the bank of the river, an entirely different aspect of Niagara bursts upon us. Instead of a yawning gulf or rapid current, or seething rapids, we find here the quiet waters and the shallow stream, in strong contrast to the view we have just left. In the old days, hundreds, and perhaps thousands, of years ago, there can be no question that Goat Island, as is explained in the geological section of this book, was possibly a



PARTING OF THE WATERS.

portion of the main land, and extended very much farther up stream, for as we reach the extreme upper end of the island, a point known as the "parting of the waters," where the currents divide into the American and Canadian Rapids, a rocky or a sandy bar extends directly up stream for over a quarter of a mile; and towards the Canadian shore, as far as the outer side of the third Sister Island, there is an inconsiderable

depth of water. All this portion of the river's rocky bed undoubtedly at one time was covered with soil, and possibly trees like those on the main part of Goat Island ; and in those days the island may have contained, as one of the early chronicles says it did, 250 acres of land, as against about eighty acres which Goat Island and the adjacent islands now embrace.

REACHED BY CANOE.

Here, as one stands at the "parting of the waters," it is not difficult for us to understand how the Indians in the early days used to come to Goat Island in their canoes, for between the currents, or along the quiet waters over this sandy bar referred to, it was easy with their light canoes to paddle down to and back from the island ; and even to-day it is no uncommon occurrence for an expert oarsman to row down and land at this point. Nor is it an especially tiresome journey back, for by keeping between the currents one encounters but little rapid water. In fact, it is said that John Stedman, being too lazy to row his boat, used to mount his horse, and compelling the animal to swim across the channel that lay between the American shore and this sandy bar, at a distance of about a quarter of a mile above Goat Island, would let him walk down on this bar and thus land on the island, and in the same way would return.

The water on the bar was then, as now, very shallow, not over a couple of feet in depth, so that in winter one may yet walk on the solid accumulation of ice from this point for a long distance upstream.

THE HERMIT OF NIAGARA.

From here, follow the shore of the rapids, and a little way along, near where the path diverges on the right from the road, we reach the spot where, on our left, formerly stood the hut that was occupied by the Hermit of Niagara, Francis Abbott, heretofore referred to.

In 1829 a young Englishman, tall of figure, handsome in appearance, carrying his few belongings on his arm, came to the village and hired a room, announcing his intention of remaining three or four days. The fascinations of Niagara enthralled him. He studied every point. Erratic in his way, yet affable when spoken to, he led a hermit's life, approaching no one, except when necessary. Preparing his own meals, he longed for absolute solitude. He asked permission to live on the First Sister Island, to which, he said, he could obtain access by wading the little stream between it and Goat Island. This could not well be granted, but he was allowed to occupy an abandoned hut that stood near where we are. Here alone, with his dog and his cat for companions, a few books, a lyre and a guitar for his solace, he lived for some months, rarely leaving the island, and then only to procure needed provisions. Friends in England supplied him with funds for his simple needs. During the day he staid in his cabin, but at night, when the island was free from visitors, he roamed about it, seeking the most weird and dangerous places, such as the end of the Terrapin Bridge, as noted before. He was accomplished in music, and composed much ; he

was a good linguist, and wrote a great deal, but invariably destroyed all he wrote or composed. After some months of this strange, and to him happy, life, a family came to live in an adjacent hut on the island, and, dreading companionship, he removed to a little building on the American shore, just above the present steel arch bridge. Here he lived for nearly six months, descending the rude stairs at the ferry each morning to bathe.

One morning, as he did not come up the stairs after his customary bath, search was made for him. His clothes were found by the water's edge, but he was not to be seen. He had been drowned — no one knew how. His body was recovered down the river some days afterwards, was brought back to his poor abode and given burial in the cemetery at Niagara, where a long, flat slab, marked, "Francis Abbott, the Hermit of Niagara, died July 31, 1831," marks his final resting place.

His absorption in the scenery of Niagara shows the boundless influence that Nature here can exert on an oversensitive soul; and his life remains a shining example of one who, thoroughly familiar with every aspect of Niagara, lost his life through overcarelessness in venturing into her currents, whose eddyings and treacherous whirls he knew and yet disregarded once too often.

SITE OF FIRST BRIDGE.

A little farther down stream, below where the path diverges on our right, where the bank slopes grad-

ually down to the water's edge, is the site of the end of the first bridge to the island, built in 1817.

Over a hundred years ago Goat Island was claimed by one John Stedman, according to the story of the Devil's Hole Massacre, told in our historic section, and the absence of trees from this upper end of the island is attributed to the fact that he used it as a garden, cleared it of trees and thereon is said to have raised, in successive years, wonderful crops of turnips and other vegetables.

THE SPRING.

A little farther along on the main road we come to a sign reading, "To the Spring." If desirous of a delicious drink of well water, it is amply worth while to descend this flight of steps and quench our thirst at the stone-enclosed spring; and then, before retracing our steps, walk out to the water's edge at two or three points and view the beautiful effects of the American Rapids as seen, not rushing by in their grandeur as on the other side, but peacefully and beautifully gliding into little cascades and rippling streams, bordered by the low banks of this wondrous isle. Back up the stairs let us go, and following the path to the right we again reach the hill leading to the bridge over which passes every visitor to this isle, and we have completed the entire circuit, of one and a quarter miles, of

" * * the island which divides
Niagara's tumultuous tides
At the brink of the mighty Fall,"

an island which has been most aptly and most truth-



THE SPRING ON GOAT ISLAND.

fully described by Basil Hall as "the most interesting spot in all America."

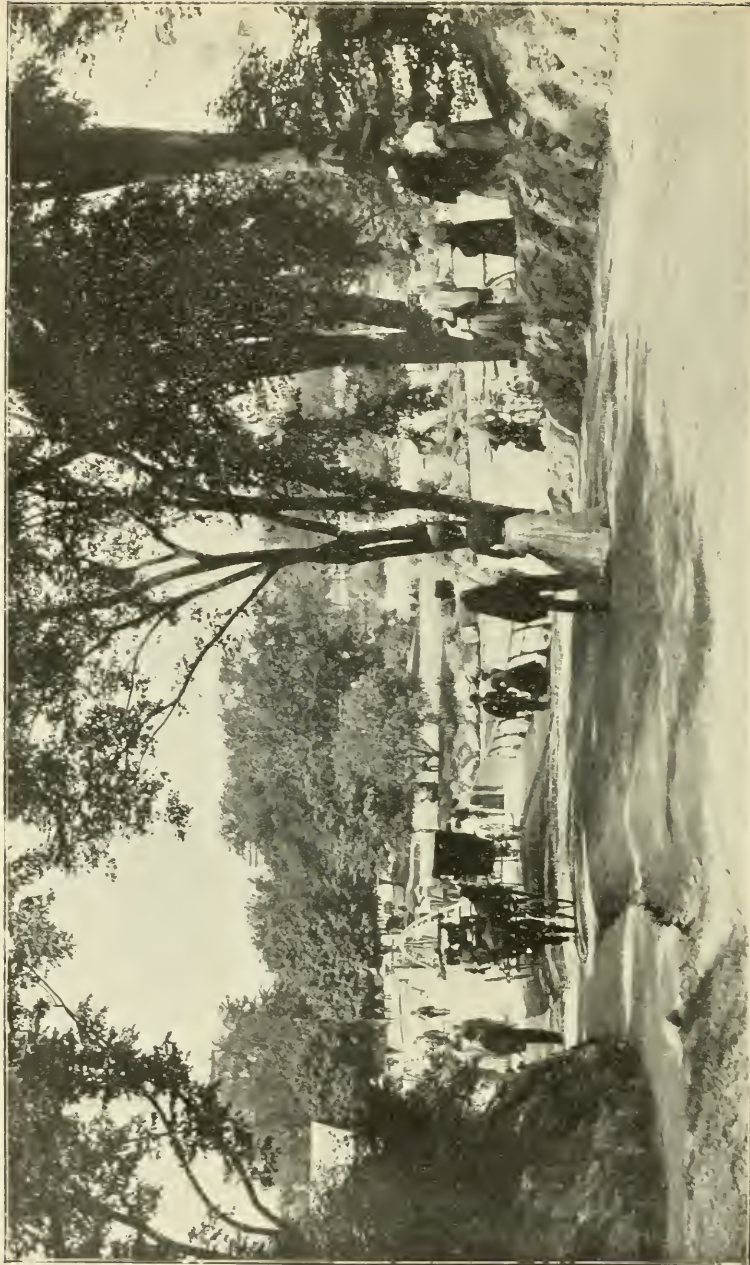
ITS SCENERY.

The scenery of Goat Island is of a twofold nature : that *on* the island and that *from* the island. The scenery from the island is the scenery of Niagara Falls, and from it can be obtained all the best views of both Falls, both rapids above them and the gorge below them.

The scenery on the island is its forest scenery, and, by reason of its numerous flora and their abundance, is wonderfully attractive at all seasons ; in the spring, when the natural forest blooms in its vernal foliage, and when the profusion of wild flowers carpet the ground ; in the summer, when amidst the shaded walks and retreats on the little islands, fanned by the ever-stirring breezes created by the rapids, one wanders entranced ; in the fall, when the gorgeous coloring of the leaves, changed by the frost into all the colors of the rainbow, delight and dazzle the eye ; in winter, when the glorious ice scenery covers every tree and twig, and Nature

"Wasteful decks the branches bare,
With icy diamonds rich and rare."

"Not one in 500, we are persuaded, knows anything about the apocalypse which is vouchsafed to him who in these glorious winter nights seeks the isle, not of Patmos, but of the Goat," wrote David Gray ; and were one to have his choice of seeing Niagara but once, it would be hard to decide whether it should be in winter or summer, but probably in winter.



THE GOAT ISLAND HILL.

“The beauty of Niagara is upon Goat Island — upon the cliffs over which hangs the greenest verdure — in the trees that lean out and against the rapids, as if the forest was enamored of the waters, suffering their youngest leaves to thrill in the trembling frenzy of the touch of Niagara. It is in the vivid contrast of the repose of lofty trees and the whirl of a living river, and in the contrast, more singular and subtle, of twinkling, shimmering leaves, and the same magnificent madness. It is in the flowers that grow quietly on the edge of the precipice, to the slightest of which one drop of the clouds of spray that come from the seething abyss is the sufficient elixir of a long and lovely life.” So wrote George William Curtis.

If your visit to Niagara is a protracted one, you should not fail to pass through Goat Island by the different paths, in order to observe its picturesque forest beauty and its scenic attractions.

The scenery of Goat Island by moonlight, at any season, once seen is never to be forgotten. One might paraphrase and say

“If you would see this isle aright,
Go visit it by pale moonlight.”

It were useless to attempt a description of it. From the Terrapin Rocks and from Luna Island the Lunar Bow is to be seen best in its glorious indistinctness, and it is to these points

“That many a Lunar belle goes forth,
To meet a Lunar beau.”

And from the Terrapin Rocks, Luna Island and Prospect Point each morning, when the sun is not

obscured, one gazes entranced into the rising clouds of spray, from which the bow of promise, like

‘An arch of glory springs,
Sparkling as the chain of rings,
Round the neck of virgins hung.”

And when, on a bright afternoon, along toward sunset, one stands among the rocks at the base of and in front of the Luna Island Fall or of the American Fall, he is the center not only of a complete rainbow circle, but of three complete concentric circles of rainbows, a phenomenon visible only here.

Byron’s description of Velino may properly be applied to Niagara. Another poet likens Goat Island to “Love in the clasp of madness”; while Tom Moore, who gazed at it from across the gorge in 1804, makes the Spirit say :

“ There amidst the island’s sedge
Just above the Cataract’s edge
Where the foot of living man
Never trod since time began,”

which was poetic, but not founded on fact. And still another wrote of

“ The isle that linked in wild Niagara’s firm embrace,
Still wears the smile of summer on its face.”

ITS NAME.

Prior to 1770, John Stedman, before referred to, claimed to own Goat Island. In the fall of that year he placed on the island a number of animals, among them a male goat. His expressed object in putting

these animals there was to get them out of the reach of the bears and wolves which then prowled about his home on the main shore some two miles farther up stream. That winter was a very severe one and by spring all but the goat were dead.

His tenacity of life gave his name to his island prison, and Goat Island it has been called ever since. Whether the goat died on the island is not known. So thoroughly has this name become attached to the island that it would seem impossible now to change it, were it so desired, which it is to be hoped it will not be. In 1819, when the Commissioners under the treaty of Ghent were engaged in determining the boundary line between the United States and Canada, Gen. Porter, one of the Commissioners, and also an owner of Goat Island, proposed to call it "Iris Island," and it was so designated in the minutes of, and on the maps published by, the Commissioners. But the traveling public of the world would have none of it ; Goat Island it was ; Goat Island it should remain. So they called it, so they continued to call it, and so it is known even until to-day, both in literature and in cartography.

ITS FIRST WHITE VISITOR.

We can only conjecture as to the name of the first white man who gazed upon Niagara Falls. In like manner, we can only conjecture as to the name of the first white man who ever stood on Goat Island. Who ever the latter was, it is pretty certain that he reached it from up stream by canoe.

In 1764 there came to Fort Niagara, in Bradstreet's army, in the British service, a man destined in after years to be a conspicuous figure in colonial history — Israel Putnam. He was lieutenant-colonel of a Connecticut regiment, and tradition says that during the month the army lay in camp at this fort he visited Goat Island on a wager — being the first white man to set foot thereon. One end of a long rope was secured on the shore, its other end being fastened to a boat, and was paid out as the boat was swiftly paddled to the island. The boat and its occupants were later hauled back to the mainland. The story in itself, minus the rope attachment, is by no means improbable ; but it is much more than probable that many white men, both French and British, had been on the island before 1764.

Augustus Porter first visited Goat Island in 1805. He found at its upper end the clearing of a few acres made many years before by Stedman.

He also found carved on the trees thereon the dates 1769, 1770, 1779, 1783 ; which was pretty substantial proof of earlier visits thereto.

Of course, since the island was bridged hundreds of thousands have visited it, so that any early dates now readable on trees thereon may have been carved by visitors of much more recent years.

ITS PROPOSED USES.

Many are the uses to which the ingenuity of man has, during the past ninety years, desired to turn the island.

It was desired originally for a sheep pen.

The State Legislature designed to use it for a State prison or a State arsenal, and because of such proposed uses declined to allow it to be sold, when application for its purchase was first made.

Lafayette, as well as many others, would have liked to have it for a residence park.

P. T. Barnum wanted to buy it for a circus ground.

Cornelius Vanderbilt, Sr., tried to buy it for use as a pleasure ground in connection with his railroads.

Jim Fiske wanted it for use as a picnic ground and as a terminal of the Erie Railroad.

And among the many propositions which were made between 1850 and 1880, all of which were promptly declined, to its owners for its use were, as the site of a mammoth hotel, as a race track, as a botanical garden, as a rifle range, and as a site for a collection of manufactories to be located along the shores of the island and the power to be furnished by running tall piers out into the river and thus collecting the waters; and, again, by cutting a canal through the center of the island from east to west and locating the factories along its banks.

DeWitt Clinton, in 1810, noted its value for hydraulic works, and that use was suggested oftener than any other until the establishment of the State Reservation in 1885. And even since then plans have been urged with this object in view ; some men seeming to be unable to realize (when they think they see a dollar for themselves) that the State's purchase was for the sole purpose of forever retaining the natural scenery which private owners had happily preserved.

ITS OWNERS.

The ownership of the islands may be summarized as follows :

The Aborigines,	— 1600
The Neuters,	1600-1651
The Senecas,	1651-1764
Sir William Johnson,	1764
The English Crown,	1764-1783
State of New York,	1783-1816
The Porters,	1816-1885
State of New York,	1885-1901

THE INDIANS ADORED IT.

To the Indians, the Senecas, as well as to the Neuters and the Aborigines, Goat Island was a sacred spot. To them it was the abode of the Great Spirit of Niagara. In the spray they saw the manifestation of their Deity, in the thunder of the cataract they heard His voice —

“ And the poor Indian whose untutored mind
Sees God in clouds and hears him in the wind ”

believed that he could sometimes even see, in the ever-shifting clouds of mist, the outlined figure of Him whom he worshiped. The island's use to the Aborigines appears to have been as a burial ground, and tradition says that in its soil rest the remains of many an Indian warrior, interred there hundreds of years ago ; over whose mounds to-day stand trees of great age. Here, says the same untraceable

tradition, was interred the body, when recovered, of the "fairest maiden of the tribe," who was annually sent over the Fall, in a white canoe decked with flowers, as the noblest possible sacrifice to the Great Spirit.

There is no record of any Indian burial taking place on the island. Hennepin makes no mention of this use of it, as he would in all probability have done had the Senecas, or even had their immediate predecessors, the Neuters, buried their warriors here. But he says "the island is inaccessible." Hence we can only assume that these graves long antedate his visit, and are the graves of Aborigines.

Tradition tells us that the Indians of long ago made annual pilgrimages to Niagara, often coming great distances, to offer to the Great Spirit sacrifices of the spoils of the chase, of war, and of the crops. Further, the chiefs and warriors, invoking blessings for the future, used to cast into its waters offerings of their weapons and adornments. We must assume that at least these offerings were made from Goat Island, as no "brave" would have been considered worthy of the name who could not reach the insular abode of the Great Spirit, from thence to offer up his invocation.

In 1834, the skeleton of a young female, that had been dug up on Goat Island shortly before, was in the museum of the Boston Medical College; and many years ago, when a fish pond was dug, not far above the bridge, a large collection of human bones were found in one spot. Most of the Indian graves, however, are on the western half of the island, where the soil is deeper.

IMPROVEMENT ON NATURE.

In regard to all of Nature's handiwork, there are always men who think that certain parts of it would have been more effectively and better done if they could only have been consulted about it, and even the case of Niagara and Goat Island is no exception.

Perhaps one of the least objectionably worded of such criticisms on Goat Island, which is conceded to be one of the loveliest and grandest spots on earth, was written less than forty years ago, in these words :

“It would be considered rather presumptuous in any one to think of improving upon Niagara, but I cannot help thinking that the effect would be increased immensely if the island which divides the cataract into the Horseshoe and the American Falls and the rock which juts up in the latter and subdivides it unequally, were moved or did not exist ; then the river, in one grand front of over 1,000 yards, would make the leap en masse.”

Fortunately, the idea is now impracticable, and Goat Island exists because such is the will of the Creator.

POETIC PROSE.

Goat Island and Niagara, for they are synonymous terms, once seen can never be forgotten, nor will the influences derived from a leisurely visit to them ever be entirely lost.

Their impression on an appreciative mind was beautifully expressed many years ago, by J. B. Orton, in the following poetic prose :

“Niagara, when once we become acquainted with it, is capable of exercising a strange power of fascination over the mind ; and the imaginative individual should not be surprised if he find mere water, earth, and air changing in its conceptions into a creature of life. No wonder that the savages adored it, and peopled it with invisible beings, and imagined it the abode of the Great Spirit. With me it will always remain a vision of beauty, closely associated with that glory with which, in my notion, I shadow and imagine the Supreme. I loved it as a fellow ; I left it with regret. Its form still lingers before my eyes, its rushing voices still hymn in my ears. And often still, sleeping or waking, am I, in heart, among the cedars of Iris Island.”

ON THE MAIN SHORE.

Returning to Green Island and across to the main shore, you will find special delight in going up the river bank. The New York State Reservation extends up stream for over half a mile, far beyond the commencement of the rapids, where the water runs swiftly, but comparatively placidly. The varied views of the American Rapids close at hand, of the wooded shore and upper end of Goat Island, of the commencement of the Canadian Rapids and the Canadian shore in the distance, of the broad river above, with the wooded shores of Navy Island and Grand Island far away, will amply repay you for the time spent.

Tradition says that about the middle of the last century the French, who then controlled all this sec-



NIAGARA, FROM THE BRIDGE.

tion, impressed by the magnitude of the water power at Niagara, built a sawmill on this shore at a point opposite Goat Island. About 1760 the British, who had just supplanted the French in control here, are said to have erected another sawmill near the same spot, that was used in preparing timbers for their fortifications along the river. About 1775, Stedman is said to have erected a new mill on the same site, and early in this century the Porters erected, at the foot of what is called Willow Island (now a part of the State Reservation), still another sawmill, and near it the first gristmill built on this frontier.

TO THE CANADA SIDE.

On your return to the vicinity of Goat Island Bridge, we are ready to show you scenic Niagara from the Canada side : first the Falls, then the Dufferin Islands, and then to show you the entire gorge, the Whirlpool Rapids, the Whirlpool and the Lower Rapids — this latter trip in an electric car, a ride of fourteen miles, without leaving the car, and landing you at your exact starting point.

At the Soldiers' Monument board an electric car, which will take you to and over the upper steel arch bridge to Canada.

We advise you to buy a so-called belt line electric railroad ticket, which cost \$1 each. For this you will be carried from the monument to and across the bridge to Canada, up to the Horseshoe Fall, one mile, and from there back to the bridge and to Queenston, seven miles below, back across the

gorge, over the Lewiston Suspension Bridge, to the New York shore, and over an electric road, close to the water's edge almost all the way, back to the monument, a ride of sixteen miles. This trip can be taken without leaving the car; but, of course, the visitor ought to spend some time at the Horseshoe Fall. This ticket, moreover, gives you the right of stop-off at any and all stations on the entire trip, resuming and completing the journey as desired, without any extra expense.

STEEL ARCH BRIDGE.

This bridge is the third one erected on this site. The first one was built in 1869, and was of the suspension type, the cables having been carried across the gorge on an ice bridge. In 1889, a tremendous gale of wind lifted the roadway, which was almost exactly a quarter of a mile long, some six feet into the air, and when it dropped back to its former position it tore away all the bolts and nuts that were attached to the wire ropes by which it was suspended from the heavy cables, and the entire floorway, 1,300 feet long, dropped into the gorge below. It was at once rebuilt, and in 1895 was replaced by the present steel arch structure.

JUMPERS.

Some years ago a man performed the perilous feat, on two occasions, of dropping from the edge of the roadway of the bridge into the waters below. Fastened to the side of the bridge was a freely-revolving

drum around which was coiled some three hundred feet of medium-sized wire. The end of this wire was attached to a hook in a leather band that was strapped around his chest, the hook being located between his shoulders. The end of the wire having been securely fastened into this ring, the man stepped to the top of the railing of the old bridge, lowered himself until he hung by his hands from the edge of the floor directly beneath the drum, then loosening his hold, he descended with lightning-like rapidity; the wire as it uncoiled from the drum merely serving to keep his body in a perpendicular position.

In 1878, a man named Peer, after duly advertising his intention, hung by his hands from the edge of the roadway of the bridge and, unaided by any mechanical appliance, dropped into the river below unhurt. At the center of the bridge the water in the gorge is 200 feet below us.

In 1873, a rope was stretched across the gorge above the bridge, from Hennepin's View on the State Reservation to a point opposite.

A man, Bellini by name, walked out to the center of this rope, where a rubber cord, twelve feet long, and an inch and a quarter in diameter, was securely fastened, its other end being attached to the middle of a short handle bar. Seizing this handle bar, and with the rubber cord taut but not stretched, he leaped from the rope, and, kept in a perpendicular position by the stretching rubber cord, safely struck the water, the soles of his feet being protected by sloping lead sandals, and sank out of sight. He arose to the surface, and a day or two after successfully



AMERICAN FALLS, FROM CANADA.

repeated the feat. A third time he tried it, but this time the cord parted at its juncture with the main rope, and freed from its restraining pull, he sank to a great depth below the surface. The twelve feet of rubber cord wound itself about his legs and prevented any attempt at swimming below water. After a lapse

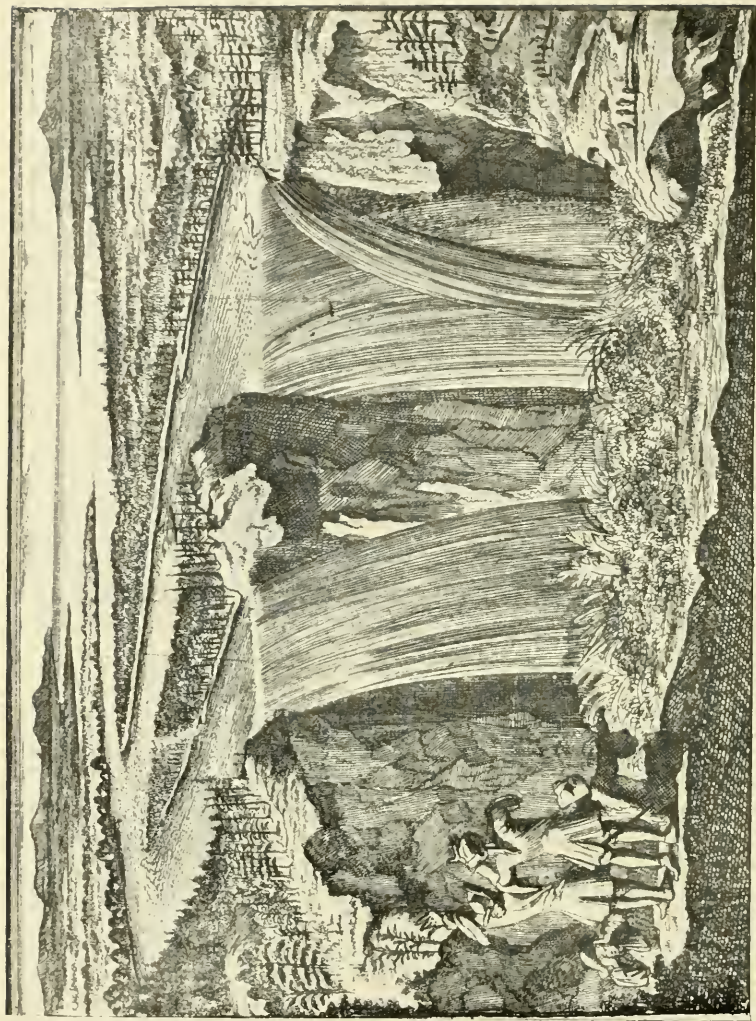


NIAGARA FROM THE WATER'S EDGE BELOW THE BRIDGE.

of time, which no doubt seemed to him an eternity, and which to the spectators seemed to insure death, he rose to the surface alive, but utterly exhausted. Needless to say, he never made the leap again.

VICTORIA PARK.

Reaching the farther end of the bridge, we are in the Victoria Park, and obtain a new view of Niagara, for from here the American Fall is seen from nearly in front. The car, turning to the left, starts toward the Horseshoe Fall, of which we now get a splendid distant view. As we reach the road that comes down the hill on our right we are at the point from which was taken the first known picture of Niagara. Father Hennepin first saw the Falls in December, 1678; but his picture, drawn probably from memory, was not published until 1697. From here, too, is taken the



FIRST KNOWN VIEW OF NIAGARA (HENNEPIN'S), 1697.

view of the rarest of all Niagara pictures, engraved by Leclercq about 1700. It is based on Hennepin's view, though considerably changed, and the supposition is that this artist, desiring to unite in one plate the greatest natural wonder on earth and the greatest honor ever vouchsafed by the Almighty to mortal man, added in one corner the view of Elijah and his chariot. It is reproduced in our art section.

The Victoria Park is a model, so far as good roads, foot paths, and accommodations for visitors are concerned. Opposite the American Fall is a rustic arbor, called Inspiration Point, whence one gets a direct front view of this Fall and can watch the little steamer, "Maid of the Mist," as she makes this unique water trip from below the American Fall and up into the vortex of foam, until the power of the water overcomes the force of her engines and she turns her prow down stream for the return trip.

OVER THE FALLS ALIVE.

No human being has ever gone over the Falls alive. But there are three authenticated cases in which a cat and two dogs, respectively, each thrown into the rapids from the bridge to Green Island, have taken the plunge over the American Fall and lived. The following solution of how such a thing is possible may be studied from where we now are, on the Canada shore, directly opposite the American Fall.

On a bright day, if one looks steadily at the bottom of this Fall where the descending sheet falls into the water, he may see, as the spray is occasionally blown



HORSESHOE FALL, FROM CANADA.

aside, a beautiful exhibition of water cones, apparently eight or ten feet high. These are formed by the rapid accumulation and condensation of the falling water. It pours down so rapidly and in such quantities that the water below cannot run off fast enough, and piles up in these cones as though it were in a state of violent ebullition. These cones are constantly forming and breaking, and it is supposed that the animals above referred to struck, in each instance, on the top of one of these cones just when it broke, and the receding water, acting as a cushion, so modified the force of the descent that the animal slid safely into the current below, aided by the repulsion of the water from the rocks in the swift channel through which it passed. In this way it is possible, though improbable, that a strong man might go over Niagara Falls and not be killed.

OLD TABLE ROCK.

The car takes us along, past Goat Island, whose rocky cliff in the gorge is seen in front view opposite, and on until we gaze across at the Terrapin Rocks and the Goat Island end of the Horseshoe Fall. Here is an elevator down the bank, but it is not of enough importance to cause us to stop.

Just before we reach the edge of the Horseshoe Fall, let us alight from the car and step to the edge of the bluff. Right at this point was old Table Rock, simply a ledge of rock projecting some fifty feet over the gorge, the softer rocky substratum having been gradually worn away by the action of the elements.



TERRAPIN ROCKS, FROM CANADA.

It was a splendid point of observation in the early days. The last part of it, some fifty feet wide and nearly 100 feet in greatest length, fell with a crash in 1853. Luckily, no visitors were on it at the time, though a party of a dozen had left it but a few moments before. Part of its rocky remains may be noted on the slope near the water in the gorge below. It was on Table Rock that Mrs. Sigourney composed her famous "Apostrophe to Niagara." It was here, also, that Chataubriand so nearly lost his life, as he tells in the following words: "On my arrival I



TABLE ROCK IN 1850.

repaired to the Fall, having the bridle of my horse twisted round my arm. While I was stooping to look down, a rattlesnake stirred among the neighboring bushes; the horse was startled, reared, and ran back toward the abyss. I could not disengage my arm from the bridle, and the horse, more and more frightened, dragged me after him. His forelegs were all but off the ground, and, squatting on the brink of the precipice, he was upheld merely by the bridle. I gave myself up for lost, when the animal, himself astonished at this new danger, made a fresh effort, threw himself forward with a pirouette, and sprang to a distance of ten feet from the edge of the abyss."

It was on Table Rock that Dickens, in 1842, penned his famed pen picture of Niagara, quoted elsewhere. It was of his sensation while standing on Table Rock Captain Basil Hall wrote: "I may mention one curious effect ; it seemed to the imagination not impossible that the fall might swell up and grasp us in its vortex. The actual presence of any very powerful moving object is often more or less remotely connected with a feeling that its direction may be changed ; and when the slightest variation would prove fatal, a feeling of awe is easily excited. At all events, as I gazed upon the cataract, it more than once appeared to increase in volume and to be accelerated in its velocity."

It was probably from Table Rock that the Indians, of hundreds of years ago, gazed on the Fall and no doubt worshiped the Great Spirit of Niagara, whose abode they believed to be on Goat Island. Red Jacket expressed the wish that his portraits should be painted as standing on Table Rock, as it was there, in close association with Niagara, that he pretended to believe his spirit would forever linger after death.

From near the edge of the Horseshoe, in the afternoon when the sun is shining brightly and you stand between it and the column of spray, you can see a beautiful rainbow effect. Now walk along the edge of the cliff until you reach the platform, protected by an iron railing, and enjoy the counterpart of the view you had when you stood on the Terrapin Rock.

That view and the one before you are, in the order named, the most impressive views of the grandeur of Niagara.

FIRST WHITE VISITOR.

Tradition says that the first white man who ever saw the Falls, a Frenchman and a priest, was led to this spot, from up stream, by a chief, and in the words of an early chronicle—

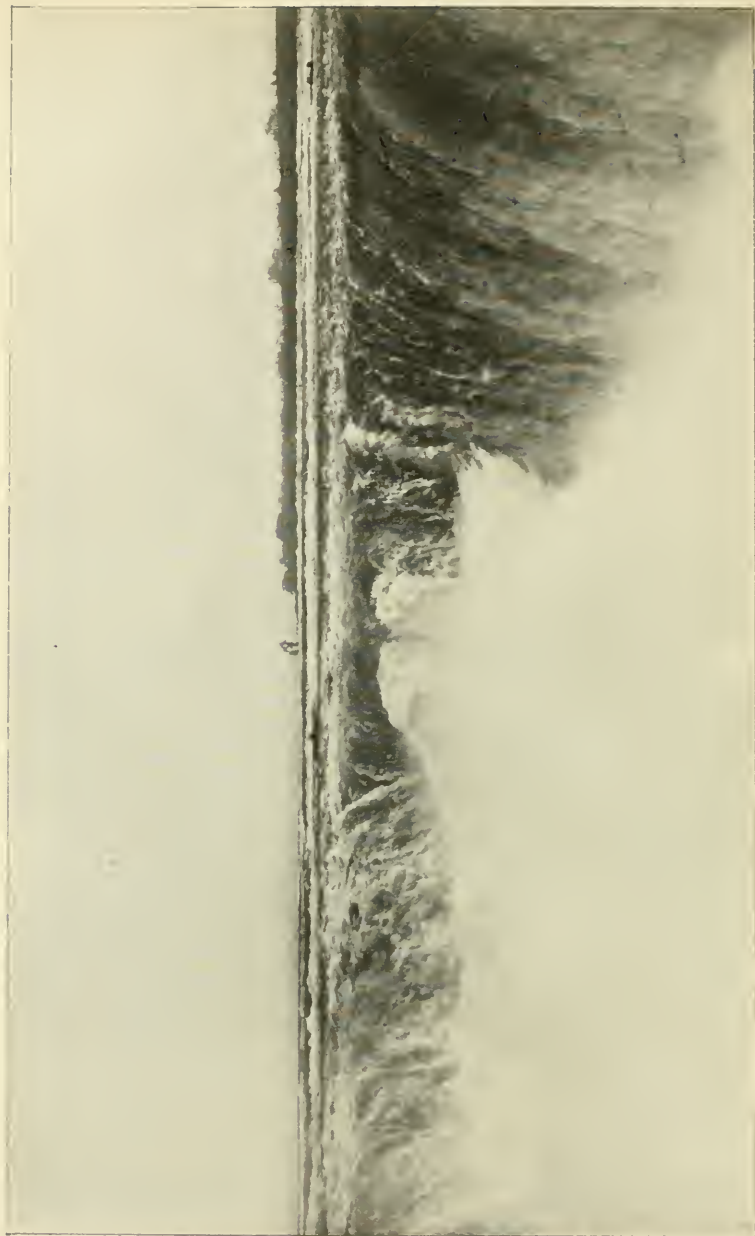
“ From a jutting shelf of stone
Saw Ni-ah-gáh-ra, then unknown,
Save to the Red Man's race alone.”

And added, which is as true now as it was then, fully 300 years ago :

“ Ne'er has the scene which 'neath them lay,
Been chronicled aright ;
For no man, in a fitting way,
By pen nor pencil, can portray
The grandeur of the sight.”

THE HEART OF NIAGARA.

After satisfying your delight at the scene before you, if the height of the water permits, and it usually does, go to what is the most interesting spot on the Canadian shore. Passing around the stone building which is the pumping station for the waterworks of the adjacent village, step out upon the rocks close to the edge of the Canadian Fall, where the water runs rapidly, though placidly, at our feet, a small quantity running over the edge on our left, just enough to let us feel that we are standing on the very brink of Niagara. To the right, gradually increasing in depth from the shore, pours over the precipice the bulk of the waters of the Niagara River. Gaze down at the sheet of water and at the surface of the river in the



“THE HEART OF NIAGARA.”

gorge below you, forever white with foam. Follow along with your eye until you reach the point where the falling column of water strikes the water level below. From here follow up with your gaze the ever-ascending cloud of spray and mist which has been rising unceasingly from the bottom of the Falls since thousands of years before man appeared upon this continent. Raise your eyes until you reach the brink of the Fall and you are gazing at the very center of the cataract, "The Heart of Niagara," as some artists have been pleased to call it. Watch it as the falling waters catch this spray and hurl it into fantastic shapes crowned by all of the colors of the rainbow, and you can probably see the unique feature of the darting lines of spray which have been so wonderfully caught by the camera, during a visit made to this exact spot in August, 1900.

THE DARTING LINES OF SPRAY.

These darting lines of spray are caused by the force of the expansion of the air that is continuously carried, by the falling water, below the surface and there condensed.

Let me quote Basil Hall, who was here in 1827, and who gave the first explanation of the beautiful phenomenon, and wrote learnedly and entertainingly about Niagara in many of its other scientific aspects

He went behind the sheet of water at the Canadian end of the Horseshoe Fall, where the barometer stood at $29^{\circ} 72'$. Of this experience he wrote: "This enormous cataract, like every other cascade, carries along

with it a quantity of air, which it forces far below the surface of the water—an experiment which any one may try on a small scale by pouring water into a tumbler from a height. The quantity of air thus carried down by so vast a river as Niagara, must be great, and the depth to which it is driven, in all probability, considerable. It may also be much condensed by the pressure ; and it will rise with proportionate violence both on the outside of the cascade, and within the shell or curtain which forms the cataract.

“It had long been a subject of controversy, I was told, whether the air in the cave behind the Fall was condensed or rarified ; and it was amusing to listen to the conflicting arguments on the subject. All parties agreed that there was considerable difficulty in breathing ; but while some ascribed this to a want of air, others asserted that it arose from the quantity being too great. The truth, however, obviously is that we have too much water, not too much air.”

[These lines were written seven years before access was had to the Cave of the Winds, but are specially applicable to it, as that is the only sensible and feasible place to go behind the sheet of water at Niagara, whether for a scenic or a scientific purpose.]

“I remarked another singular phenomenon, which I have not happened to hear mentioned before, but which is evidently connected with this branch of the subject. A number of small, sharp-pointed cones of water are projected upwards from the pool on the outside of the Fall, sometimes to the height of a hundred and twenty feet. They resemble in form some cornets of which I have seen drawings. Their

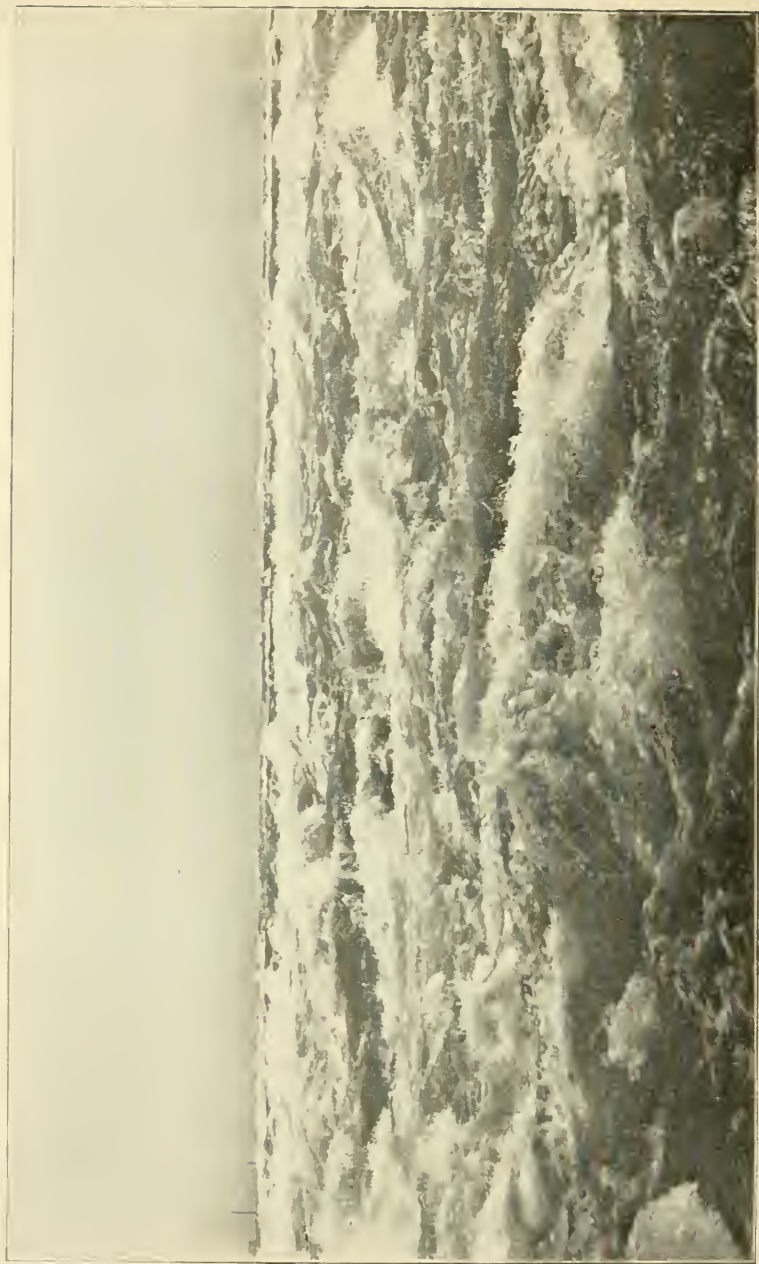
point, or apex, which is always turned upward, is quite sharp, and not larger, I should say, than a man's fingers and thumb brought as nearly to a point as possible.

“The conical tails which stream from these watery meteors may vary from one or two yards to ten or twelve, and are spread out on all sides in a very curious manner. The lower part of the Fall is constantly hidden from the view by a thick rolling cloud of spray, and I do not believe it is ever seen. Out of this cloud, which waves backwards and forwards, and rises at times to the height of many hundred feet above the Fall, these singular cones, or cornets, are seen at all times jumping up. The altitude to which they are projected, I estimated, at about thirty feet from the top. The whole height being 160 feet, the perpendicular elevation to which these jets of water are thrown cannot, therefore, be less than 110 or 120 feet above the surface of the pool.”

ABOVE THE FALLS.

From here, too, gaze up the river and you will see the foaming, tumbling waters pouring down toward you, and you will then, perhaps, realize the force of the expression, “A mile of madly rushing, tumbling waters, threatening to engulf you.”

Retrace your steps to the electric railway and board a car going up stream. Buy a ticket to the Dufferin Islands and return, price fifteen cents each. The car now takes you along the water's edge to and along the whole length of Cedar Island and again to



"A SHORELESS SEA."

the main land. A short way farther on you come to a crib work, filled with stone, placed so as to prevent the erosion of the land. A little way out in the stream is a flat black rock ; and, gazing over that, you see a little-known, but most wonderful, exhibition of the power of Niagara. Before you, and pouring towards you, come the tumbling rapids, and it is from this identical spot that the late Duke of Argyle described one of the ideal views of Niagara, a point but little known, but deserving of being visited by every lover of nature. As you read the following lines, glance up occasionally at the prospect before you, and you will appreciate the beauty and the force and the power of Niagara as perhaps they have never been described before.

A SHORELESS SEA.

“The river Niagara above the Falls runs in a channel very broad and very little depressed below the level of the country. But there is a deep declivity in the bed of the stream for a considerable distance above the precipice, and this constitutes what are called the Rapids. The consequence is, that when we stand at any point near the edge of the Falls and look up the course of the stream the foaming waters of the Rapids constitute the sky line. No indication of land is visible ; nothing to express the fact that we are looking at a river. The crests of the breakers, the leaping and the rushing of the waters are still seen against the clouds, as they are seen on the ocean when the ship from which we look is in the trough of the sea.

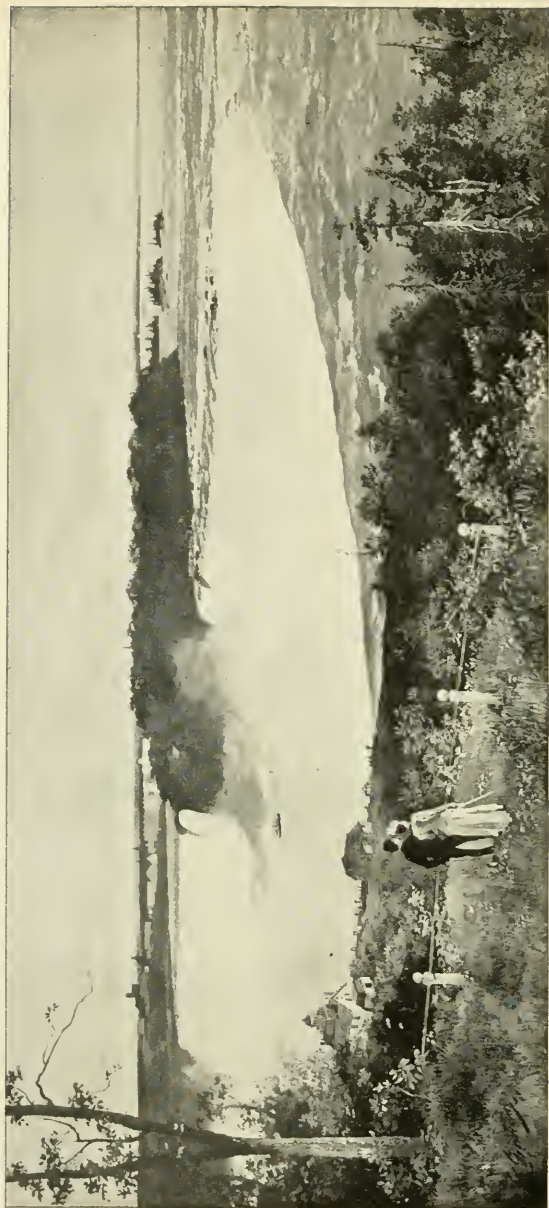


LOVERS' WALK, DUFFERIN ISLAND.

It is impossible to resist the effect on the imagination. It is as if the fountains of the great deep were being broken up, and that a new deluge were coming on the world. The impression is rather increased than diminished by the perspective of the low wooded banks on either shore, running down to a vanishing point, and seeming to be lost in the advancing waters. An apparently shoreless sea tumbling towards one is a very grand and a very awful sight. Forgetting, then, what one knows, and giving oneself to what one only sees, I do not know that there is anything in nature more majestic than the view of the Rapids above the Falls of Niagara."

THE DUFFERIN ISLANDS.

Following the bank of the river, the car reaches the Dufferin Islands, where a bend in the rapid current sweeping around these low-lying spots, produces one of the most beautiful sylvan retreats, filled with a number of so-called lovers' walks, and affording beautiful scenic effects and views of the tumbling rapids. Crossing over the second bridge, we reach the so-called Burning Spring, which is simply the outpouring of a small amount of natural gas, which filters through the veins of the rock, from the not very far distant gas fields, which when lighted burns with a small bluish flame. It is not worth visiting, nor the payment of the admission fee. Do not let us continue our journey for scenic Niagara beyond this spot; but let us recall that on the banks of the river, not so very far above, was fought the Battle of Chippawa, July



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NIAGARA, FROM FALLS VIEW, CANADA.

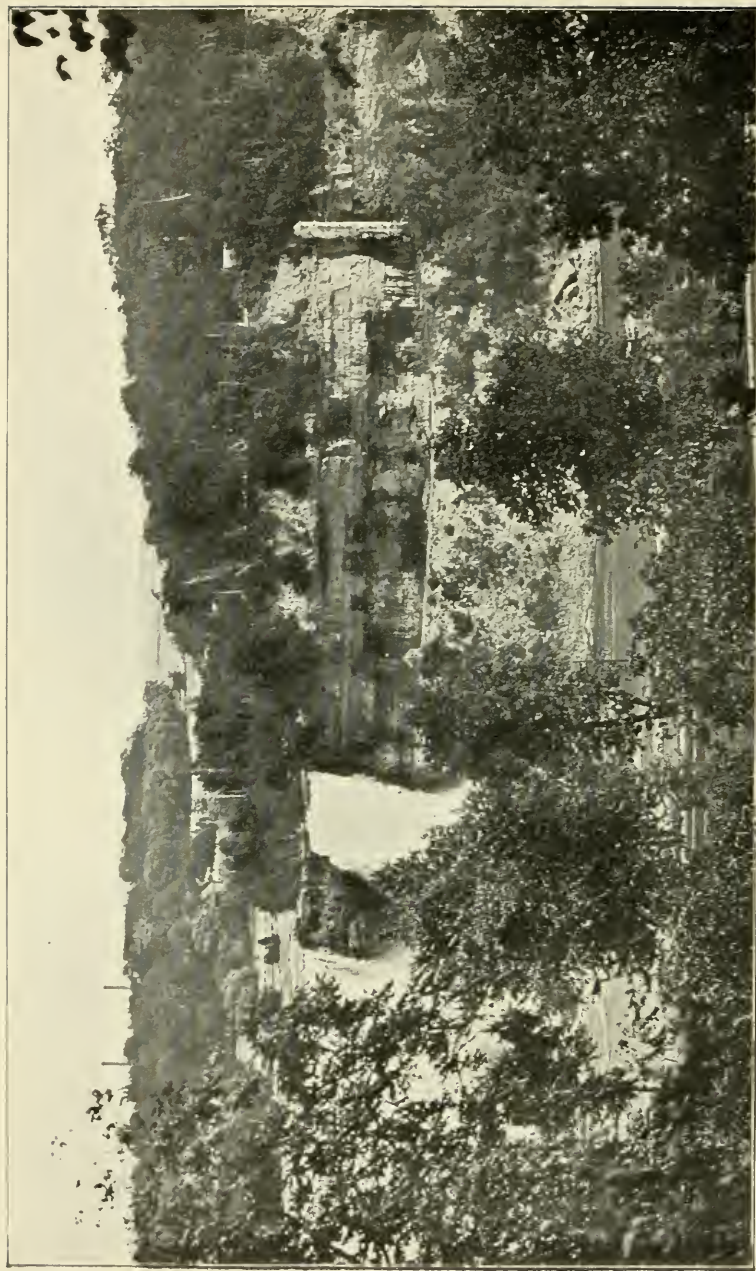
By permission of John A. Lowell & Co.

25, 1814; and at the mouth of the little creek, a mile above where we stand, stood the British Fort Chip-pawa, built in 1790, to protect the upper end of the Canadian Portage, whose lower end was at Lewiston, eight miles below.

POINTS OF INTEREST.

After viewing the beauties of the Dufferin Islands, the forest beauty on them and the scenic beauties of the rapids from them, get on the electric car again for the return trip to the Horseshoe Fall. On the top of the high bluff on our left is a gray stone building surmounted by a holy cross. This is the Loretto Convent, dedicated to "Our Lady of the Cataract," to which was granted the privilege of pilgrimage by Pope Pius IX.

Reaching the Horseshoe Fall, we again resume our trip, on the electric car, on the \$1 belt line ticket, bought when we started from the American shore. On our left about a mile back from the gorge is the battlefield of Lundy's Lane, July 5, 1814, referred to in our historical section. And opposite the Biddle Stairs on the American side, if you climb to the top of the bluff on our left, you will get the splendid view illustrated on page 136. On our right, at the edge of the cliff, is the site of the "Old Indian Ladder," which was simply a tall cedar, its limbs lopped off about a foot from the main trunk and fastened perpendicularly to the face of the cliff, by means of which the Indians of long ago used to descend to the water's edge below, in order to fish. As late as 100 years



GOAT ISLAND CLIFF, FROM UPPER TERRACE, VICTORIA PARK.

ago, a similar ladder, or tree, was placed for, and used by, white visitors and Indians on the American shore, just below the steel arch bridge.

Later, on our right, we come to the road that winds down the bank to the old ferry landing, where the steamer "Maid of the Mist" touches, and up which, in the old days, the noted visitors to Niagara have climbed. Down it, June 24, 1883, walked Captain Matthew Webb to take the little row boat from which, nearly two miles below, he leaped into the river above the Whirlpool Rapids, with a "good bye, boys," to the boatmen, the last words of his ever heard by man.

The top of the inclined railway down the bank is in the little building just beyond, on our right; and from below this, one has the best view of the steel arch bridge, over which we recently came.

Just below the bridge, on the Canadian shore, on our right, is the site of Simcoe's ladder, a similar, but improved, ladder of the Indian-ladder type mentioned above, erected in 1792, in order that the wife of the first Governor-General of Upper Canada might descend into the gorge.

THE TUNNEL OUTLET.

On the American shore, close below the pier of the bridge, a rushing current pours into the river at and below its surface. This is the outlet of the great tunnel, and the water pouring from it has developed 50,000 horse-power in the power house, one and a fourth miles above (which we shall visit later on), and, having there done its work, has come through the



OUTLET OF THE GREAT TUNNEL.

tunnel, which is 150 feet underground, twenty-four feet high and nineteen feet wide, on a grade of seven feet to the hundred, to rejoin its original source.

The large manufacturing plants of the Hydraulic Company, the earlier though not the larger of the two great companies whose development of water power has made Niagara so famous commercially, are directly across the gorge, the water from the surface canal, after having developed the power on the face of the cliff, falling in many graceful streams into the gorge.

BLONDIN'S FEAT.

The car ascends a slight elevation, and not far beyond its crest is the site of the Canadian end of the rope stretched in 1859 across the gorge; on which rope, on several occasions, Blondin crossed and recrossed, performing many feats in midair—such as taking a small cook stove in a wheelbarrow to the rope's center, and there cooking and eating his dinner; lowering a rope to the steamer "Maid of the Mist," and drawing up and drinking the contents of a bottle of wine; crossing with empty baskets fastened to his feet (this dangerous feat being performed in honor of the Prince of Wales, now King Edward VII. of Great Britain, who sat on the Canadian shore at this point and greeted Blondin, as he reached the bank after the trip from the American shore); and, finally, carrying his manager, Harry Colcord (who is still living), across the gorge, sitting in a specially-prepared leather harness on his back, a ride such as no other man ever took, and he probably never wanted to take again.



A ROPEWALKER.

Blondin, the pioneer and greatest of all ropewalkers, preserved his equilibrium on the rope by means of a long balance pole, some three inches in diameter at the center and about an inch and a half at the ends, and some twenty-four feet in length.

RAILROAD BRIDGES.

Next comes into view the cantilever bridge, built in 1882, and close below it the steel arch railroad bridge. This latter was built in 1848 as a suspension bridge, the first railroad suspen-

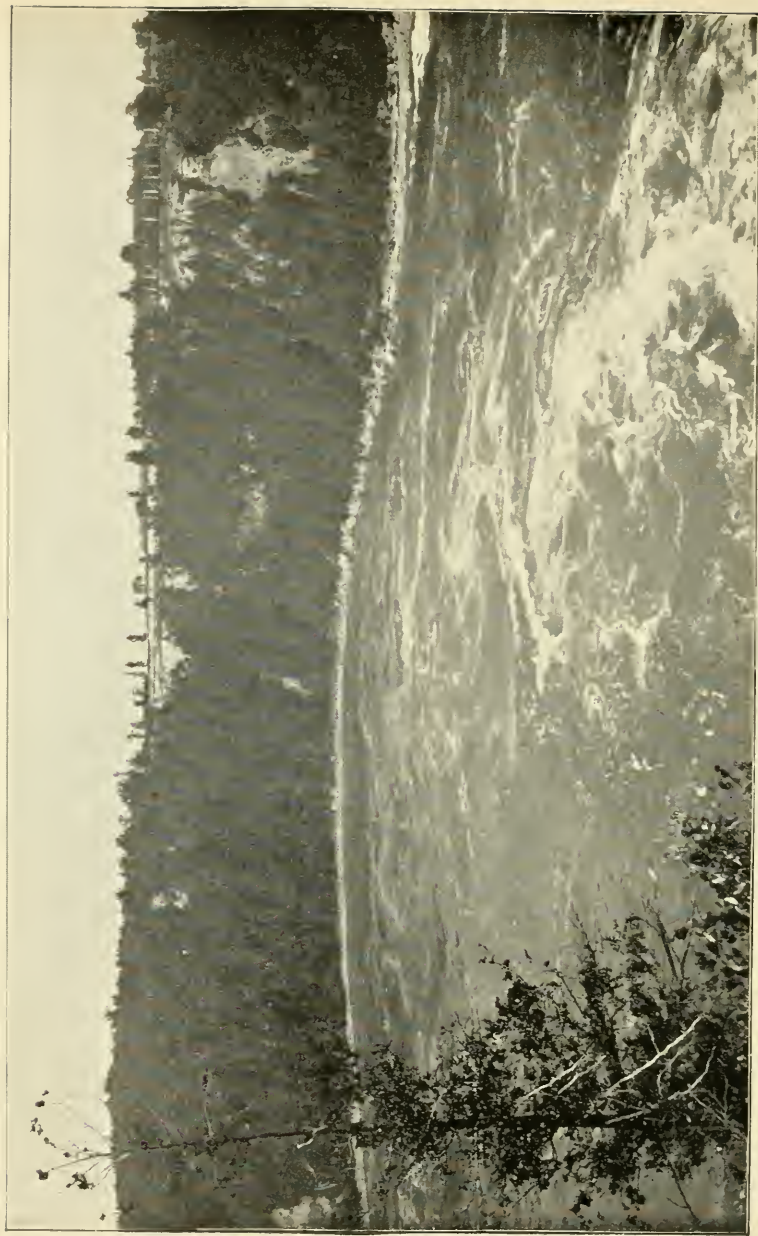
sion bridge in this country, by John A. Roebling. It was remodeled in steel, as a suspension bridge, in 1880, and rebuilt as an arch bridge in 1897. It is worthy of note that the cables of the first bridge were carried across the gorge through the instrumentality of a kite. The contractor for the bridge offered a prize of \$5 to any boy who would carry a string across by landing his kite on the opposite shore. Three days later a strong wind blew from the Canada shore. A large number

of boys from the American side took their kites, crossed the river at the ferry just below the Falls and walked down to the site of this bridge. Here they joined a number of Canadian boys, already at work for that \$5. Finally, an American boy (now the Rev. Warren Walsh) landed his kite on the American shore and won the prize. By means of this kite string successive cords and ropes, each thicker and heavier than its predecessor, were drawn across, until, finally, a hempen rope of sufficient strength to pull one of the huge wire cables across spanned the gorge.

Below this bridge, in the gorge, begin the famous Whirlpool Rapids, of which, and of their navigation and accidents, we shall refer at length as we ride alongside of them at the water's edge on the American shore, on the return trip.

ROPEWALKERS.

Just below these bridges another rope was stretched across the gorge, over which two or three persons made the trip from shore to shore, one of them being a woman. Luckily, yet strange to say, of all the daring persons who have had the nerve to attempt to cross the river's gorge on a suspended cable not one has fallen from his rope, nor has any fatality occurred to any of them; though one man, at least, after starting on his journey, and getting about thirty feet from shore, repented of his rashness and turned around and scrambling back to land, abandoned the attempt. On this rope, also, one man rode across on a bicycle, whose wheels were grooved to fit the rope.



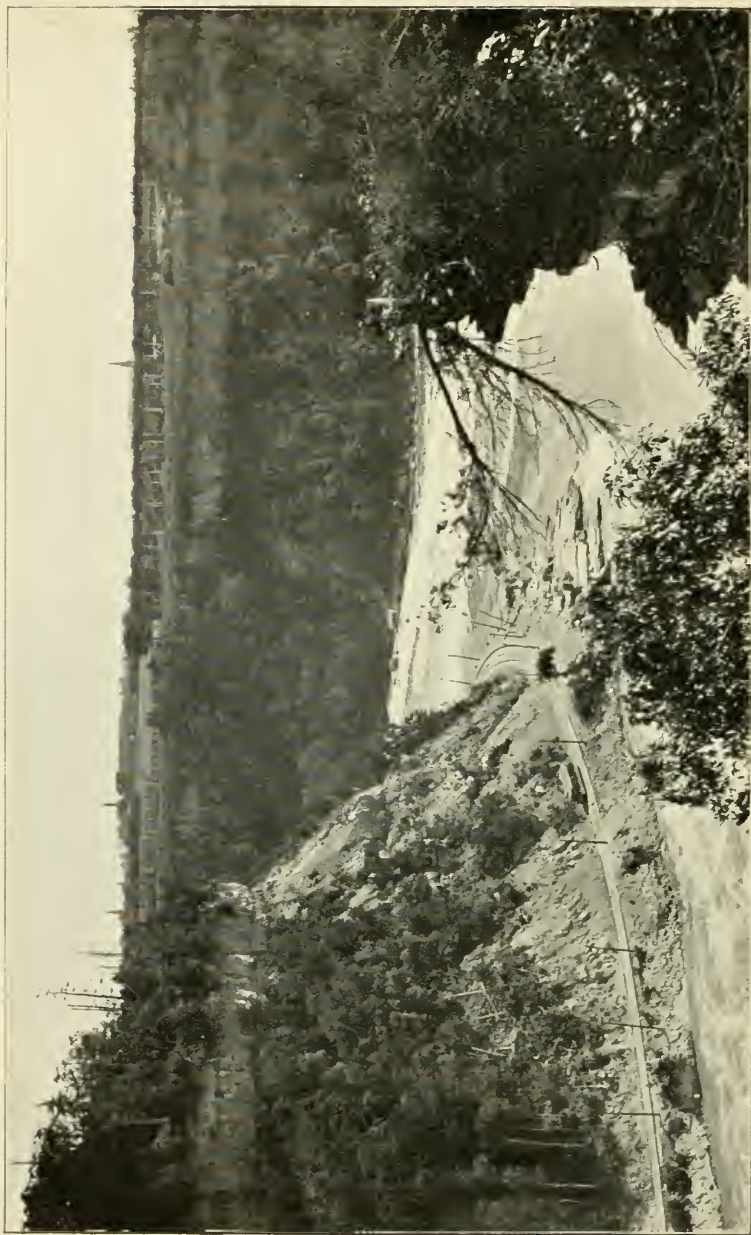
THE GREAT WHIRLPOOL.

THE WHIRLPOOL.

The car soon reaches the top of the bluff, rounds the bend, and we gaze down into the Whirlpool, that phenomenal spot, which if there was one place on the earth's surface that man would like to see without its covering of water, and its eddying whirlpools, it is its bed. Let us note that the inlet to the Whirlpool by the so-called Whirlpool Rapids is at right angles to the outlet and that the water reaches this outlet largely by an undercurrent which runs under and directly across the path of the swirling inlet. In the Whirlpool may often be seen large masses of debris, among them often huge logs, which are caught in the eddies, then pointed upwards and sucked beneath the waves with apparently as little effort as one would handle a feather. Here, too, are often rescued the bodies of those unfortunates who by accident or by suicide take their last look on life at Niagara; and sometimes a body will float round and round the Whirlpool, in its eddying currents, beyond the reach of man, for days at a time before it falls into the right current and in its course is brought near enough to the shore to be recovered.

PRE-GLACIAL CHANNEL.

A little farther on and the car runs on a long high trestle, and stops about the middle to enable you to gaze at the chasm and the forest below you. You are directly over what was thousands of years ago the old pre-glacial bed of Niagara River, which followed the course of the present river, though on the



INLET AND OUTLET OF THE WHIRLPOOL.

surface, approximately to the Whirlpool, and then, instead of following its present channel to Lake Ontario, cut its way westward through this old gorge to old Lake Ontario at St. David's, some three miles to the west of Queenston Heights. The outlet and inlet of this old channel alone remain unfilled (with "drift" and soil) to prove this most interesting geologic fact connected with the course of the old river before the coming of the Ice Age.

Following the curve of the bluff that skirts the lower side of the Whirlpool, we reach the crest over the outlet, and just beyond this spot, looking back, one gets a glorious view, over the edge, showing the inlet and the outlet of the Whirlpool.

BROCK'S MONUMENT.

The car speeds along, at times near the edge, at times away from it, for three miles. Looking down from the edge of the cliff, on our right, the suspension bridge, over which we shall soon pass, appears far below us, and on the heights, on our left, rises the graceful Doric shaft called Brock's Monument, erected by a grateful country to his memory. It stands on Queenston Heights, and from its summit is to be obtained a wonderful panoramic view. The remains of the earthworks of old Fort Drummond, of the War of 1812, are just behind it. The first Brock's Monument stood on the same site, but was a much less architecturally beautiful structure than this one. A miscreant named Lett, incited thereto by his sympathy with the patriots and instigated by his hatred of Britain, blew



THE RIVER FLOWING PLACIDLY TO THE LAKE.

it up with gunpowder in 1840. Intending evil, he wrought good, for the present far handsomer shaft replaced the one he destroyed.

BATTLE OF QUEENSTON HEIGHTS.

We are on historic ground. On top of this hill, on its northern slope, and on the steep bank of the river, was fought the battle of Queenston Heights, October 12, 1812, which resulted in a victory for the British. Let us right here pay tribute to the farsightedness of the Canadian officials of long ago, who reserved in all their sales of land a strip along the river bank, one chain in width, for Government purposes.

As the car turns and begins to descend the hill, look at the glorious panorama spread out around you. These heights were, in ages long gone by, the shore of Lake Ontario, before it receded to its present level. A little way down the heights, on the riverside, was the redan battery (British), captured by the Americans, recaptured by the British, and the Americans in it literally pushed over the bluff. At the outlet of the gorge, 300 feet below you, the river, after its tumultuous rush of four miles from the Whirlpool, emerges from its narrow path, broadens out, and winds its way peacefully to Lake Ontario, seven miles away.

BROCK'S CENOTAPH.

Half way down the hill the car turns and soon, on our left, near the car, appears a stone monument sur-



BROCK'S MONUMENT.

rounded by an iron chain fence. It marks the spot where General Brock fell, and was set in place, with appropriate ceremonies, in 1861, by the Prince of Wales (now King Edward VII.).

HISTORIC SPOTS.

Farther along, on our right, note the ruined stone house. In it, in 1792, was printed the first newspaper published in Upper Canada, and to it the mortally wounded General Brock was carried for shelter.

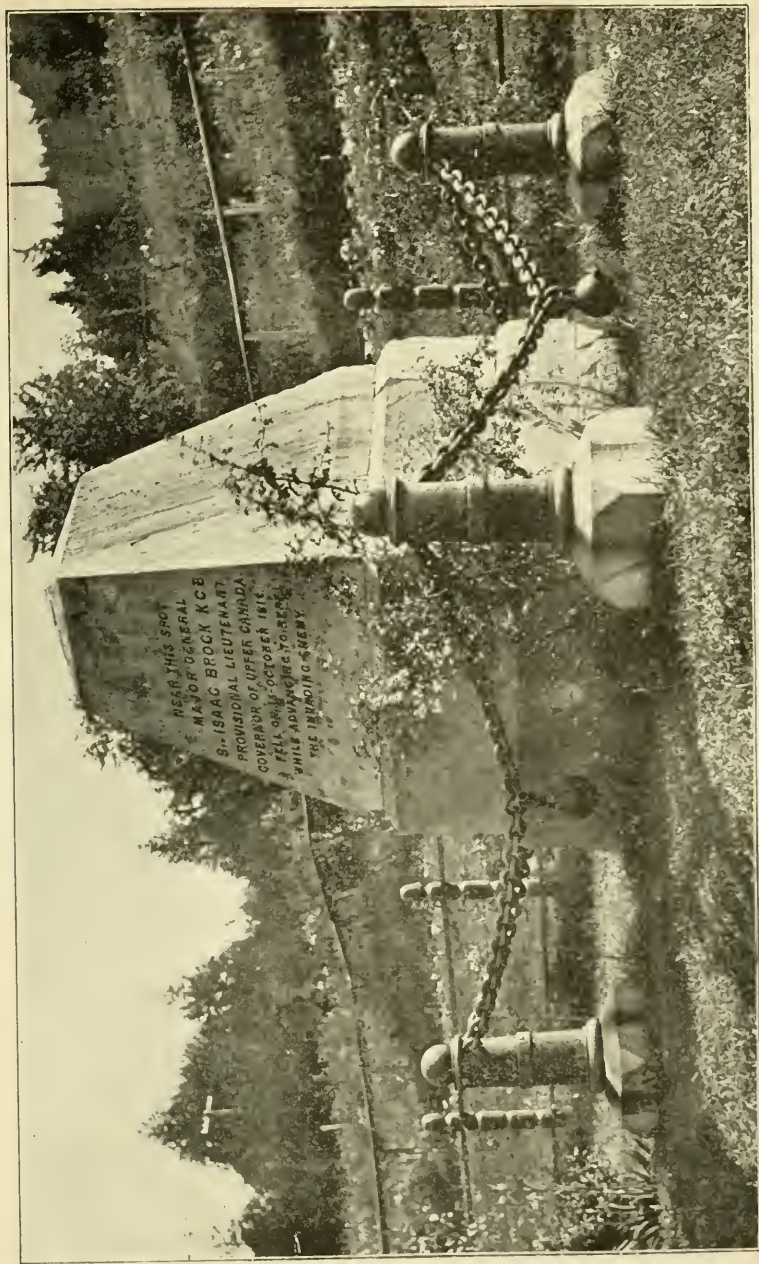
The car turns again and passes along a road on the face of the cliff, and in a moment we are on the suspension bridge. On this site was built, in 1856, the first bridge across the gorge here. The neglect to replace the stay cables to the shores — removed one winter so that the ice jam might not injure them — left the bridge unprotected against a gale which blew down the gorge, in 1866, and demolished the roadway. The cables hung uselessly till 1899, when the present structure was built.

In the left foreground, in front of us, are the so-called "Three Mountains," described by Father Hennepin, to make which he included the bank from the river to the level of the mainland below the mountain, the plateau half-way up the heights, and the top of the heights themselves. It was up these mountains that the anchors, rigging and cannon for the "Griffon" were toilsomely carried.

From the bridge look upstream at the river, with the waves piled up in the center, rushing in the last expiring throes of its madness.



BRock's CENOTAPH, NORTH VIEW.



BROCK'S CENOTAPH, SOUTH VIEW.



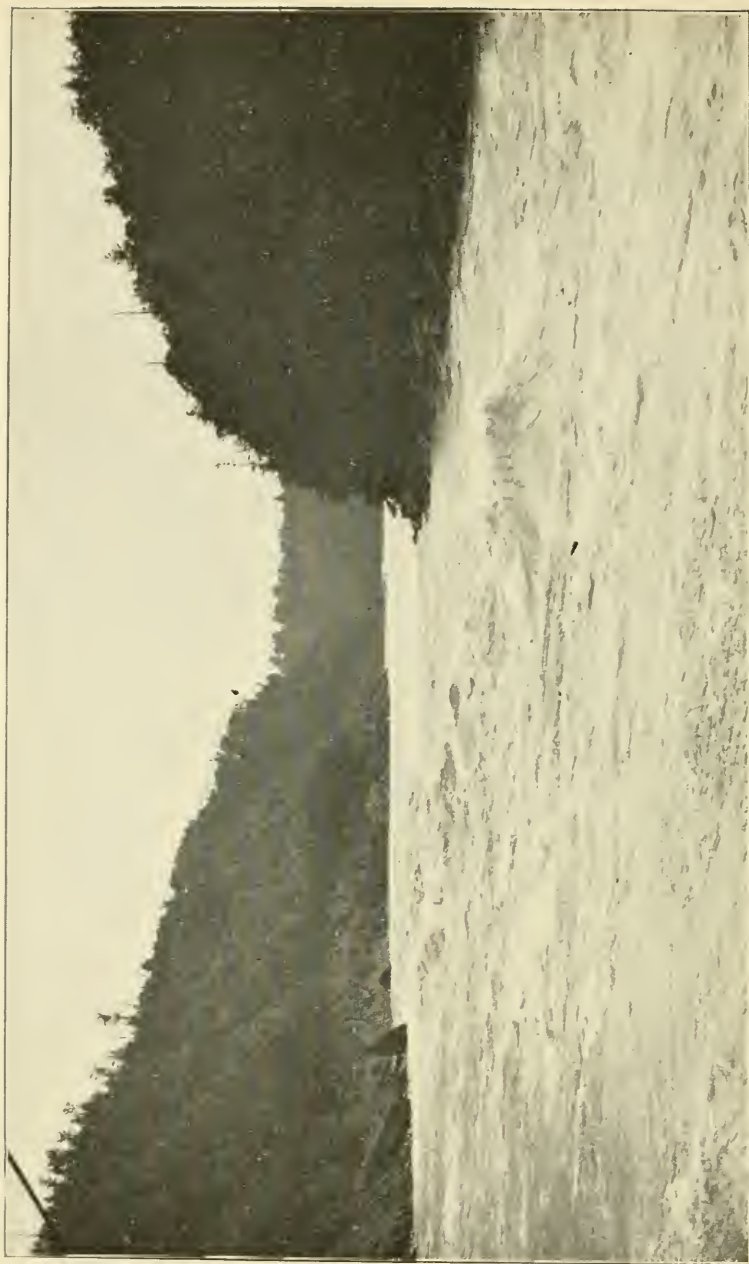
THE OLD LEWISTON INCLINE.

On the heights, at the crest, on the American shore above, stood old Fort Gray in the War of 1812 ; while down the cliff, in former days, from the crest above to the water's edge, ran the first railroad built on this continent ; constructed in 1764 by the British.

THE OLD INCLINE.

During French rule, and after the British defeated and drove the French from this section, until 1763, all the provisions and munitions of war for the western posts, as well as the merchandise of the traders going west and their furs coming east, were carried up and down these heights on the American shore on men's backs, much of the work being done by Indians. Then, and even up to 1825, when the Erie Canal was completed, on the American shore, just below the bridge, was the head of lake navigation. So great was the amount of provisions and munitions of war needed for and destined to be sent to her newly-acquired Western territory, that the British built this tramway up the bank here to facilitate and cheapen transportation. Rough in construction, it was of enormous strength. On crude piers up the bank from the wharf to the summit were laid two sets of parallel logs, in straight lines, for the timbers did not conform to the surface of the ascent. On these ran two rude cars, connected by a rope, which passed around a drum on top of the cliff. As one car went up, the other came down.

Properly loaded, one with goods going up, the other with furs to come down, the work at the wind-



THE LAST MAD RUSH OF THE RAPIDS.

lasses was not so great, and Indian braves, who otherwise would scorn manual labor, used to toil thereat all day, their pay being a pint of whiskey and a plug of tobacco (luxuries otherwise unobtainable by them) per day. Over this tramway, from 1764 to 1796, passed all the commerce, as well as boats, cannon, and military stores, the trade of half a continent. To-day, not even a trace of one of its piers can be found.

It is a not uninteresting fact that to-day, at Niagara, after a lapse of over 135 years, the same general engineering plan, used for lowering visitors to and raising them from the slope below, is still in use.

HENNEPIN'S LANDING.

Looking down stream, you see the village of Lewiston, on the American shore, eighty years ago a place of great importance as the head of navigation, now merely a quiet, delightful historic town. Between that place and the bridge, on the American shore, is a ravine, famed as the spot where, in 1678, Father Hennepin and the crew drew up their little bark, so as to be out of the reach of the ice ; and just below this ravine is the site of the old Indian village Onguiaarha, the largest of the four Neuter villages on the eastern side of the river.

THROUGH THE GORGE.

Reaching the American shore, the car runs a few rods to the left, and there runs on to the track of another electric road, and starts upstream, on the



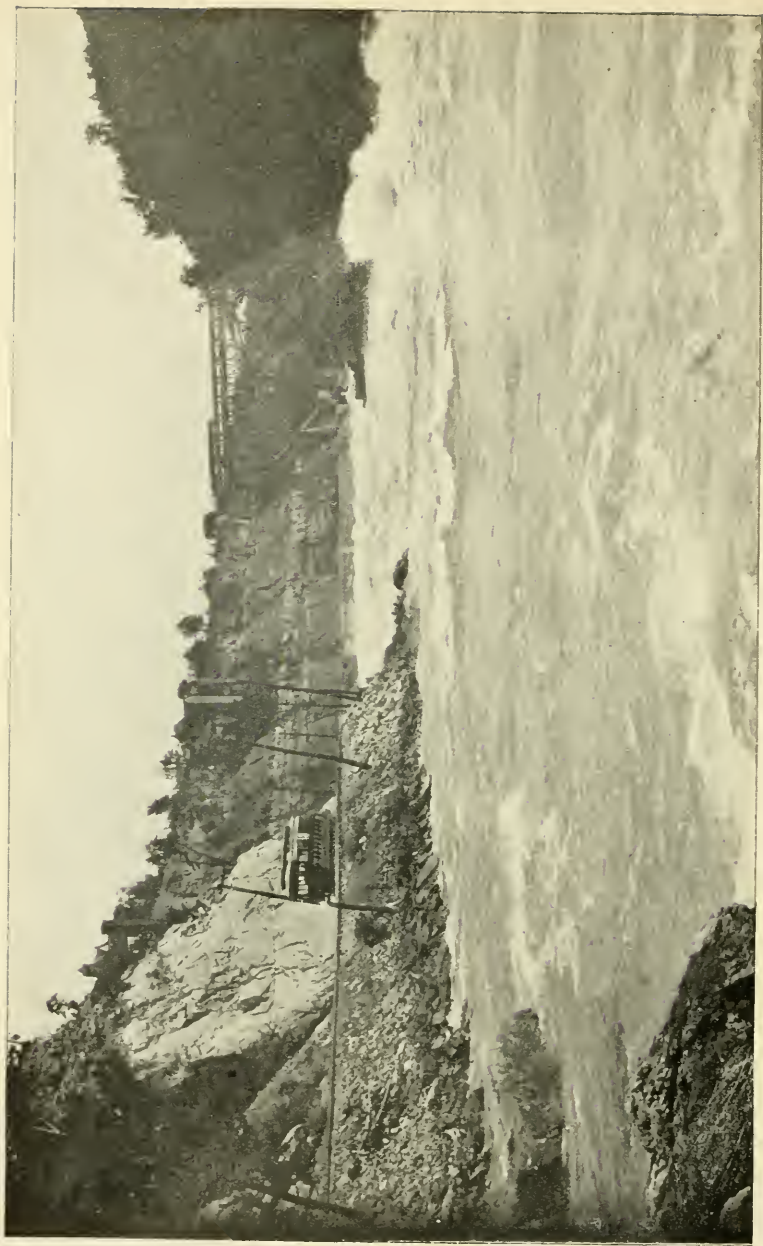
CAVE OF THE EVIL SPIRIT, DEVIL'S HOLE.

return trip, to the Soldiers' Monument. This most remarkable electric road was constructed under engineering difficulties, and has furnished an entirely new view of the lower Niagara Rapids. Its roadbed runs for five miles not far above the waters of the rapids, opening up views that were unobtainable until its construction. The interesting story of the geology of Niagara is fully told in our geological section. The glorious views of the scenery need not, indeed cannot, be described, but form a continuous and wonderful panorama, as the car passes along upstream against the current.

All along its course, from Lewiston Heights to its present position, the form of the Fall was probably that of a horseshoe ; for this is merely the expression of the greater depth, and, consequently, greater excavating power of the center of the river, so says Prof. Tyndall.

THE DEVIL'S HOLE.

Some three miles up from the bridge is a chasm, high up on our left, called the Devil's Hole. The story of the ambush and massacre of the British by the Indians, on the cliff above, in 1763, at this point, is told in our historic section. Up in the chasm is a cave called "The Cave of the Evil Spirit," and the early Indians foretold subsequent disaster to any one who dared to enter it. La Salle, in 1679, in spite of the Indians' warning, entered it, and to this trip the Indians attributed his subsequent misfortunes and murder, all within two years.



WHIRLPOOL RAPIDS, FROM DOWN STREAM.

FOSTER'S FLATS.

Next we come to the narrowest point of the whole river. The low land across the stream is known as Foster's Flats. Geologists have claimed that these flats are simply the debris left by the cataract when it was at this point, ages ago. It is claimed that here an island, similar in location to Goat Island, once existed.

Before the Falls had reached this point, the water, of course, flowed many feet above the level of the high banks of the gorge here and extended in width all over the high bank beyond these flats. When the Falls had receded to this point the lower end of this island was a sheer cliff higher than the face of Goat Island to-day. After the Falls had cut their way past this island it remained merely an isolated rocky column, presumably some 250 feet high and presumably some 200 yards across, with a rushing torrent below the Falls on each side of it. Its softer under strata was gradually undermined by the elements until there came a time when it fell to the westward, thus blocking up the channel of the rapids on that side and forming these flats.

This story, of course, belongs properly in our geological section, as does the hypothesis that there were once three falls, one above the other, in the river, between this point and the heights below.

THE WHIRLPOOL.

Soon we reach the outlet of the Whirlpool, where the speed of the current, as well as the speed of the



DISTANT VIEW OF FALLS, UP THE GORGE.

Whirlpool Rapids above, is estimated at over twenty-eight miles an hour. Next, we look on the Whirlpool from its level shore, and appreciate the force and the height of the waves. Look across the pool itself at this point and see the ravine, already referred to as the pre-glacial outlet of the old Niagara River at the Whirlpool. Rounding the bend and starting upstream, we see what is to many the most beautiful sight at Niagara, the Whirlpool Rapids. Here the waters are piled up in the center of the channel high above the level at the edges, the crests of the waves being often forty feet above it.

This short stretch of wildly-tumbling rapids is the scene of some of the most thrilling incidents and accidents at Niagara.

A WONDERFUL VOYAGE.

In 1861, the little steamer "Maid of the Mist" was an unsuccessful venture, and her owners had an offer for her, if they would deliver her on Lake Ontario. Joel Robinson, the hero of Niagara, undertook to pilot her from the Falls to the lake. According to his promise, he started at 1 o'clock in the afternoon, June 6, 1861. The steamer lay at her wharf, on the American shore, just above the railroad suspension bridge. The shores above and the bridge were black with people. Two men, the engineer and fireman, had agreed to accompany Robinson on this fearful trip. At the hour named, Robinson took his place at the wheel and the lines were cast off. He rang the bell and the boat started toward the Fall. Running

up the river a short distance, he turned the boat's head sharply down stream, and like an arrow she shot under the bridge and into the rapids. At the first great curling wave she received a terrible buffeting, first on one side and then on the other, her smokestack being knocked over. She righted herself, and sped on, faster than any boat had ever traveled before. The current ran thirty miles an hour, and, with her engines and impetus, she must have reached a speed of nearly forty miles an hour. The engineer, who stood at the cabin door, was knocked to the deck. Robinson abandoned the wheel, over which he said he had not the slightest imaginable control, threw his arms around one of the cabin posts and held on for life. The fireman, imprisoned beneath, fell on his knees, and clinging to the stair railing prayed as he had never prayed before. He afterwards said he believed it was to this prayer that the three men on the boat owed their salvation. The steamer passed unharmed into the Whirlpool and rode on an even keel. Robinson again seized the tiller and pointed the boat's head for the outlet. She obeyed her helm and plunged once more into the rapids and, steered mainly by the current, dashed along through all those four miles of rapids, past which we have just come, until she at last glided on to the quiet surface of the river, and Robinson guided her to the dock at Queenston on the Canadian side. During the 100 years of Queenston's existence as a port of entry, she was the first boat that ever came to the dock from upstream. The collector of the port of Queenston at that time was a Scotchman, and not given to sentiment. He rushed down to the

wharf and insisted that Robinson take out entrance and clearance papers. He did so, and the collector was not out his fees, though the manifest shows that the steamer carried "no passengers and no freight." The boat was taken to Lake Ontario and sold, and ran for many years afterwards. When Robinson returned to his home he looked twenty years older than when he started on that trip. Thereafter he was a changed and subdued man. He had passed safely through an ordeal of an unknown kind. He had stood face to face with eternity. He had been saved from a power against which man's strength and ingenuity was absolutely powerless. He grew aged and reverend in that trip of fifteen minutes. He said that his sensations were what he imagined might be those of a large bird, with outspread wings, sailing swiftly onward and downward through space.

CAPTAIN WEBB'S LAST SWIM.

Through these same rapids, in 1883, swam Captain Matthew Webb, entering the water from a boat just above the cantilever bridge, the banks and bridges being thronged with people to witness his daring feat. Rapidly he passed under the bridges, swimming high out of water; when he struck the point where the two waves from either shore meet, he bravely dived under the high crest of the meeting point and came up safely below it. Opposite to the little house, at the foot of the cliff, on the Canada side, about one-third of the distance to the Whirlpool, he was plainly seen, bravely swimming. Then he disappeared from view

and was seen no more alive. His body was found some days later in the river at Lewiston, a long cut on the head indicating that he had been hit by the edge of some rock as he swept by, thus being rendered unconscious and drowned. He is buried in Oakwood Cemetery at Niagara.

It had been the commonly accepted belief that the river in these rapids, while very much shallower than where the surface is broader and placid nearer to the Falls, was yet of an unobstructed depth of many feet. But the fact that Captain Webb, who swam in the middle of the swiftest current, no doubt struck against the edge of a sharp rock (as proved by the cut, some three inches long, found on his head, and made,



as physicians who saw it declared, before death), led to the belief that the boulders in the channel, beneath the rushing waves of these whirlpool rapids are very much nearer the surface than had been supposed. Indeed, the claim has been made, and photographs shown in testimony thereof, that at exceptionally low water the tops of rocks have been clearly seen right in the middle of these rapids.

There have also passed successfully through these rapids, the so-called Whirlpool navigators, who, in an extra strong, tall, narrow, well-padded within, oak

barrel, with lower end weighted, consigned themselves to the current and reached the Whirlpool in safety. Graham did it. So did Hazlett and Potts; and later, Potts and Sadie Allen made the trip together, the latter the only woman who ever took the risk.

In 1882, one Kendall, a Boston policeman, wearing as an aid only a cork life-preserver, is said, and believed, to have been the only man who ever swam these rapids and lived.

After passing under the two railroad bridges — both marvels of engineering skill — and noting their massive foundations, turn around and look down stream, viewing the bridges themselves above and the stretch of the rapids, which we have just passed, below.

ON THE FACE OF THE CLIFF.

From this point, on a gradual but steady rise, extending for about a mile, the electric car runs on a sort of rocky shelf on the face of the cliff, and from this position are obtained unsurpassed views of the wooded shores of the gorge and of the river below the Falls as it runs on its quiet course to the Whirlpool Rapids. Let us also note that the first steamer, "The Maid of the Mist," extended her trips down to a landing located on the American shore, not very far above the cantilever bridge, and the passengers descended to this lower landing by means of a roadway down the bank, which we cross in the electric car.

It was from this very dock that the steamer "Maid of the Mist" started on her perilous but successful trip, just described, to Lake Ontario.



THE AMERICAN FALL, FROM THE FOOT OF THE INCLINED RAILWAY.

It was at a point near the center of the river, and but a few rods above the cantilever or upper railroad bridge, that Captain Webb sprang into the water from a rowboat to begin his fatal attempt to swim the Whirlpool Rapids.

For the convenience of passengers, and we are inclined to think also for their security, and especially their peace of mind, the trips of the present steamer end very much farther up from the rapids. The car, after reaching the top of the cliff, runs through the city of Niagara Falls and lands us at the Soldiers' Monument, which was the point at which we boarded it when starting on our trip to Canada.

NIAGARA FROM BELOW.

From the monument walk down the board walk to the one-story stone building near Prospect Point. Descend the slope either by the stairs or by the inclined railway. Passing out of the shelter building to the left, you are near the foot of the American Fall. If the wind is blowing up the river, make your way along dry paths and over dry rocks close to the edge, where you will hear but little of the roar even then. Glance upward and you will begin to appreciate, as you have not done on any part of our trip, what is the real meaning of the height of Niagara. In the spray at your feet, so runs the legend, dwells the "Maiden of the Mist," ever disporting herself and eagerly waiting for the spirits of those unfortunates who, either by accident or suicide, lose their lives over this Fall. Over the pile of moss-covered rocks, in front of and



Copyright.

THE MAIDEN OF THE MIST.

at the base of this Fall, each winter forms an ice mound — in severe weather many feet in depth, as the spray, ever falling and ever freezing, slowly, but surely, adds both to the size and height of this milk-white mound.

THE ICE BRIDGE.

In the river, opposite the incline, forms almost each winter a jam of ice from shore to shore, and extending from the mouth of the tunnel upstream, sometimes covering the entire river up past the American Fall, so that it has often been possible to walk from where you are standing on the ice in front of the American and Luna Island Falls, and thus to reach and climb the Biddle Stairs up to Goat Island. Two excellent views of such an ice bridge, showing the wonderful inequalities of its surface, are given herewith. It is called an ice bridge simply because it is possible to cross on it from shore to shore.

THE MAID OF THE MIST.

Down stream from the shelter house, at the foot of the incline, is the landing spot of the steamer "Maid of the Mist." At this spot, in the old days before the first steamer plied here, was the end of the ferry, where for many years people were conveyed to and from the Canada shore in large row boats; and from 1861, when the little steamer was taken through the rapids to Lake Ontario, as told above, till the present steamer was built in 1887, row boats were used and patronized rather for the novelty of the



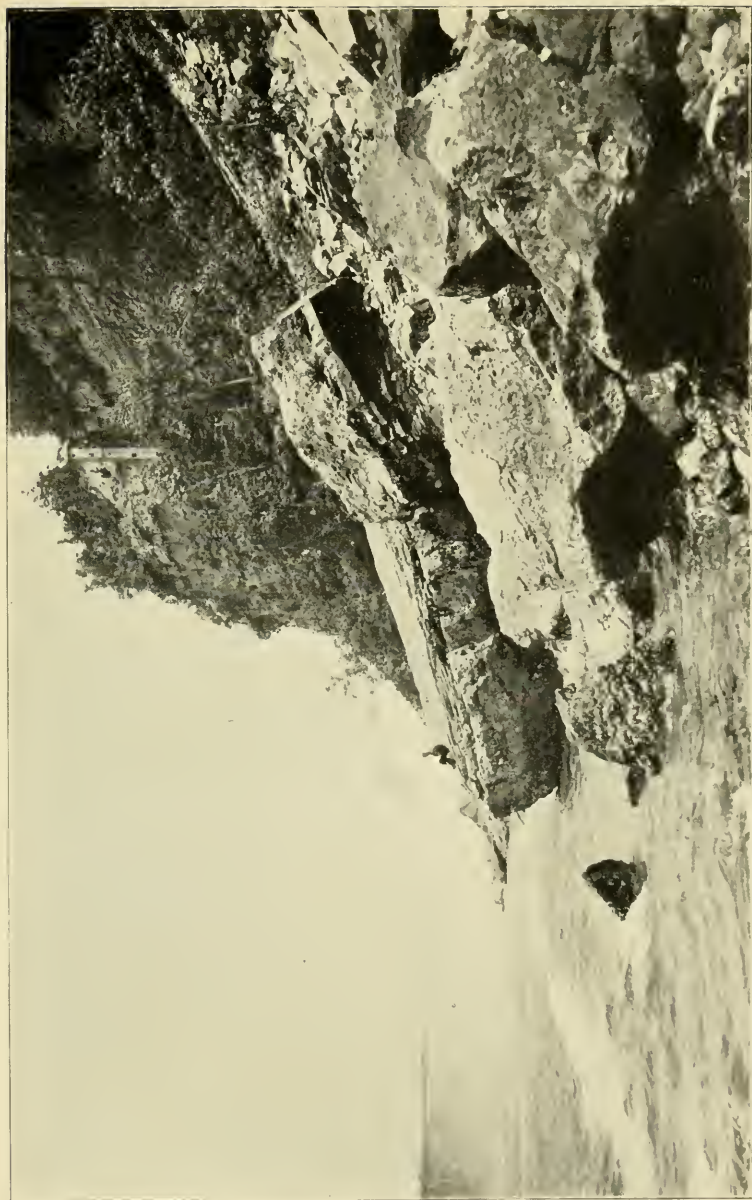
BELOW PROSPECT POINT, WINTER.



AN ICE BRIDGE, LOWER END OF AMERICAN FALL.



AN ICE JAM IN THE GORGE, CALLED AN ICE BRIDGE.



GOAT ISLAND CLIFF.



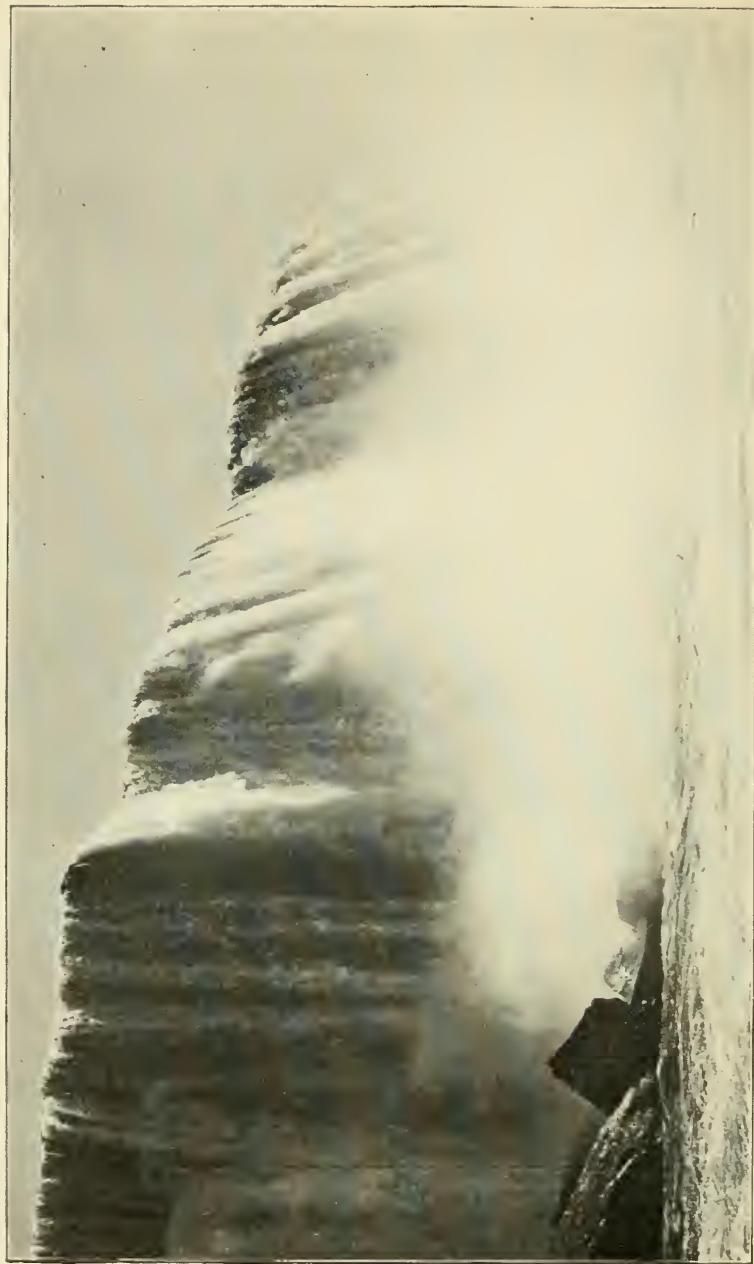
HORSESHOE FALL, FROM "MAID OF THE MIST" DECK.

trip, as for most of that time the suspension bridge furnished an easier trip across the gorge.

The trip on the "Maid of the Mist," described as the most wonderful water-trip in the world, should not be omitted under any circumstances. Board the little steamer. Leaving our wraps in the cabin we slip on a waterproof or oilskin hood and cloak, which so disguises one that their best friend would hardly recognize them when they reach the deck of the steamer. Starting from her dock the steamer coasts up directly in front of the American Fall, and we appreciate the height and beauty of this Fall, as seen from this point, as it is impossible to get it in any other way. The water seems as if pouring from the clouds.

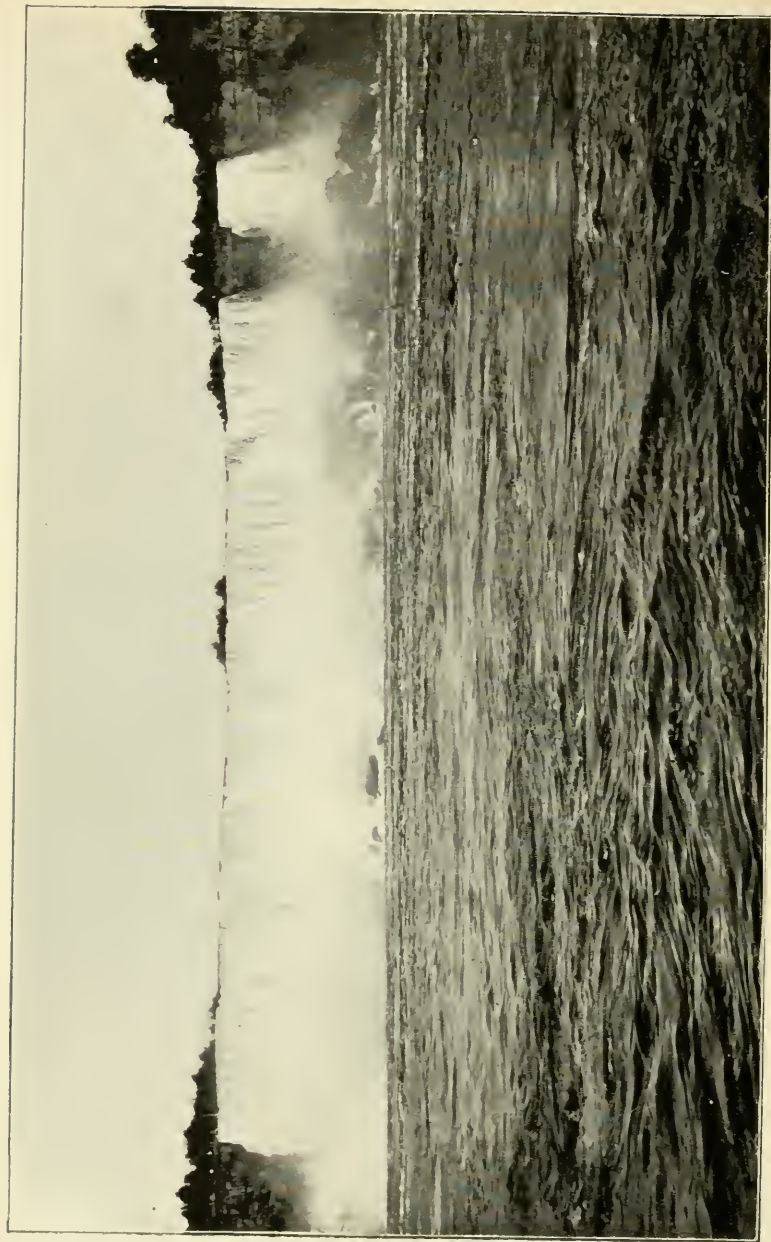
Beyond this Fall and out in front of the little Fall, of which a most beautiful reproduction is given in the frontispiece of this volume, we observe figures clad in uncouth garments walking along the temporary bridges. These people are "doing" the Cave of the Winds, even as, if you have followed our itinerary, you have already done.

The geology of Niagara is nowhere better seen, nor can it be studied to greater advantage, than as one gazes from the deck of this steamer at the strata of rock along the Goat Island base, for here there are less trees to obstruct and impair the sight than probably at any other place. Beyond the Goat Island Cliff are the few threads of water at the eastern end of the Canadian or Horseshoe Fall, and at the point where we see the iron railing stood the Terrapin Tower. From the steamer you appreciate more than ever that those rocks are the center of Niagara.



THE "ULTIMA THULE" OF NIAGARA.

As the boat forces its way against the current, we enter upon that "Sea of White" formed by the ever restless waves dashed into foam, and gazing up, it seems as though the water poured from the heavens. No pen-picture can do justice to this scene, though the reproductions that the camera has obtained are equaled only by the view itself. Farther and farther over these white waves the boat pushes its way along ; its passengers, though protected by their oilskin coats from serious harm, are in the midst of a cloud of spray, which is so complete as almost to shut out the view of the Falls themselves. It is a sensation which is equaled nowhere else. We are approaching, as it were, the "Fountains of the Great Deep," and when the boat has been propelled forward to a point where the force of the current prevents her further progress, because it equals the power of her engines, she gracefully turns her prow in a circle and floats rapidly down stream, emerging once more into a recognizable position on the waters of the mighty gorge. From here, following the line of the Canadian current, she passes down stream again past the American Fall, stops at her Canadian dock and then turning her prow toward the American shore moors again at the dock from which she started. Divesting ourselves of our oilskin clothing we start forth again, looking like rational human beings. Rumor says that after the summer travel of 1901 is over, history will repeat itself, after a lapse of forty years ; and that the steamer "Maid of the Mist," number two, which will not then be required at this point, as one boat in her half-hourly trips can carry all those who will want to go, she will



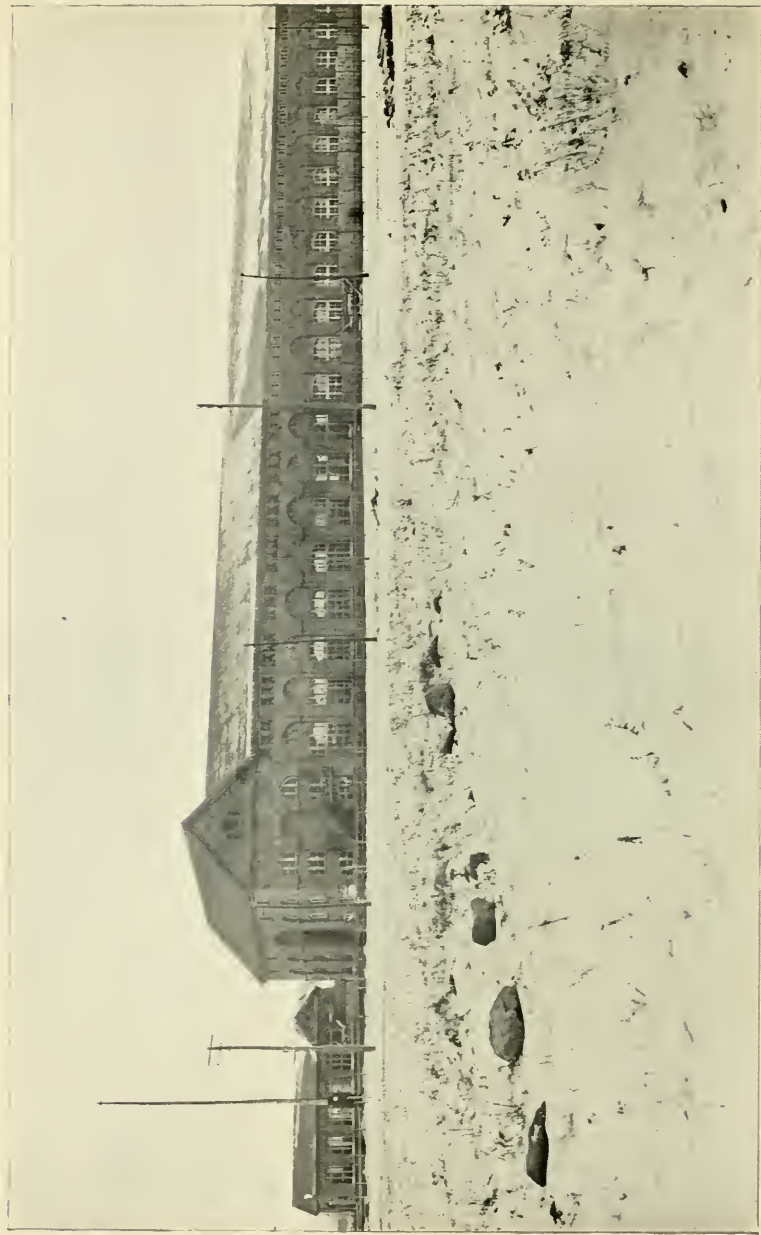
AMERICAN FALLS, FROM STEAMER'S DECK.

imitate her predecessor and make the trip through the Whirlpool Rapids, the Whirlpool and lower Niagara Rapids to Lake Ontario, never to return.

THE POWER HOUSE.

Ascending the slope, walk to the Soldiers' Monument, and there board that electric car, which will take you to the power house of the Niagara Falls Power Co., the center of the greatest electrical development of power on earth; a large, massive, but not architecturally beautiful, granite structure, 450 feet long, sixty feet high, with a plain slate roof. Over the entrance, carved in stone, is the single bit of ornamentation on the building, the seal of the company.

On entering the power room (whether in the narrow gallery which crosses it or on the floor) you are at one end of a huge apartment, which occupies the entire main building from wall to wall and from floor to roof. On the right, extending in a straight line almost the entire length of the room, are ten huge dynamos, each producing 5,000 electrical horse power, their mushroom-shaped iron tops revolving at a speed of two miles per minute. To the left of the center of the building, equidistant from the ends of the room, are two elevated platforms, where, day and night, inspectors keep watch of the records of the power generated by the dynamos. Beneath these platforms, carefully enclosed, are innumerable wires and devices, by means of which this wonderful force, which we call electricity, is made to record its own story of the amount of power produced.



OUTSIDE VIEW OF POWER HOUSE.

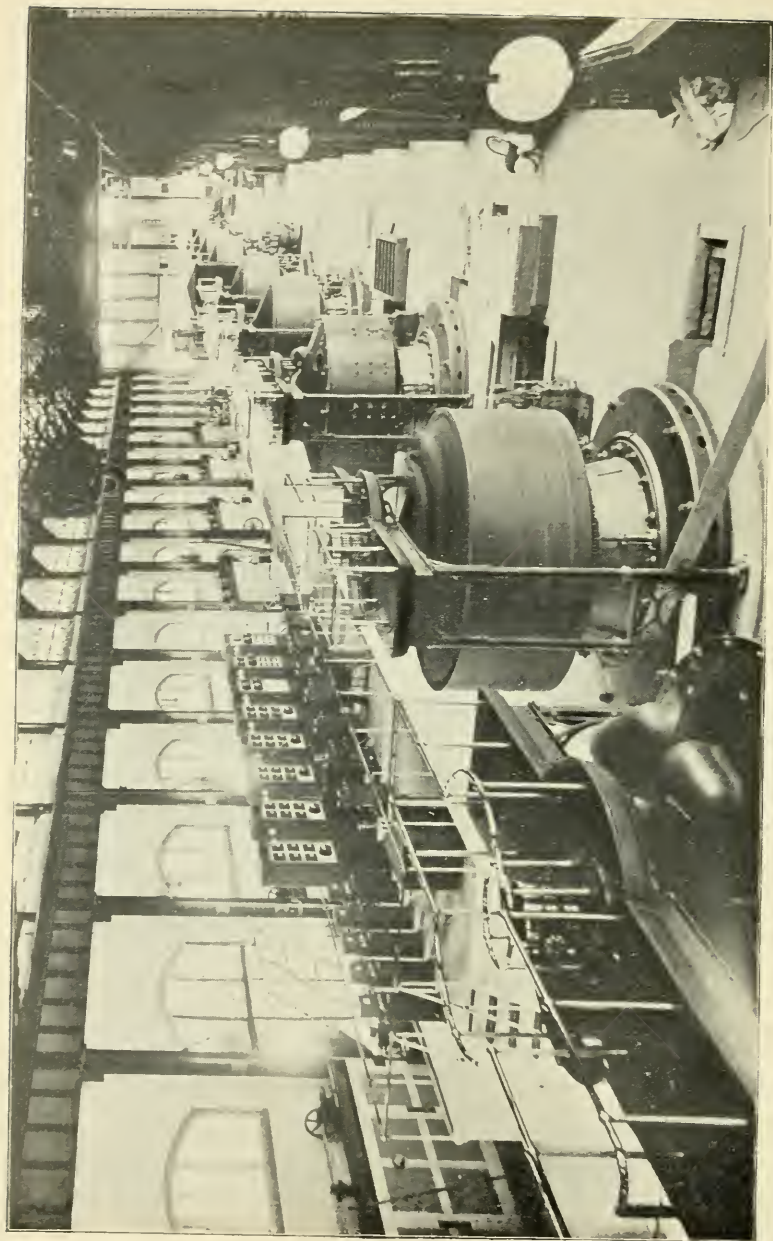
“Touch not, handle not!” is the only absolutely safe rule for the visitor to observe toward everything in this marvelous room.

High up, not far below the lower edges of the roof, supported at either end by, and traveling on, ledges on the inner sides of the two side walls, is the electric crane, capable of handling fifty tons, which moving lengthwise on the walls and sideways on its steel traveling beams is enabled to reach any portion of the building.

Beneath the floor is the pit, in which are set the wheels and penstocks, and the shafts, whose lower ends are connected directly with the turbines, and whose upper ends terminate in the dynamos themselves. This pit is cut out of the solid rock, is 420 feet long by 21 feet wide, and 180 feet deep.

Down the pit, to near the bottom, extend the ten iron tubes or penstocks, each seven and one-half feet in diameter, by means of which the water is taken from the surface canal to just below each turbine, and then, by an upward curve of the penstock, is delivered to the turbine through its lower surface. By this means the weight of each column of water, estimated at 400,000 pounds, serves to support the weight of the corresponding turbine and shaft and dynamo, thus lessening the friction. The turbines are set vertically, transmitting the power of revolution direct to the dynamo above without the intervention of any gearing.

Below these turbines, this pit extends downward some forty feet and into this space pours the water, after having done its work on the turbines. One end



INTERIOR OF THE POWER HOUSE.

of the bottom of this pit is connected with the main tunnel by a lateral tunnel, and thus through the great tunnel, which is merely a tail race, the water finds its way back to the river, in the gorge below the Falls.

On the other bank of the inlet canal a duplicate of this power house, with its underlying pit and machinery, is in process of construction, and is nearing completion. This will develop another 50,000 horse power, and when all of this shall have been developed nearly the full capacity of the main tunnel will have been utilized.

The small stone building across the inlet canal from the first power house is the "Transformer House." In this the current direct from the dynamos is raised or lowered to the different voltages required for the use of the various consumers, especially the current sent to Buffalo, which for long transmission must be raised or "stepped up" to a high voltage, to be again lowered or "stepped down" at the other end to the required potential.



SEAL OF NIAGARA POWER COMPANY.

HISTORIC NIAGARA.

THE NAME NIAGARA.

The word Niagara is a household word the world over, and is the synonym for the typical waterfall. It is of Indian origin, for, of course, the Indians once inhabited all this section, and much of the nomenclature of Western New York is directly traceable to their occupancy thereof or to their language.

It comes to us from the Iroquois, who derived it from the Neuters, whom they annihilated as a tribe, the few survivors being adopted by the Senecas. It is not improbable that the Neuters, in turn, derived it from some prior tribe of the aborigines, so that its origin is lost in the dim past of Indian lore.

Over fifty known variations of the name are known, though for over 200 years the present spelling has been in general, and for the past 150 years in almost universal, use. Older forms, found in books of the seventeenth century, are : Onguiaarha, Ongiara, Och-niagara, Iagara, and Ni-ah-gah-ra, the latter accented sometimes on the second syllable.

The Neuter Nation, farther back than whom we cannot trace the etymology of the word, would seem to have pronounced it Ny-áh-gá-ráh, their language having no labial sound, and all their words being spoken without closing the lips. The Senecas pronounced it with the accent on the third syllable, and the French adopted it from them as nearly as the

idiom of their language would allow. The pronunciation, Nee-ah-ga-ra, occasionally heard nowadays, was also probably in common use later on, while in more modern Indian dialect the sound of every vowel being always given in full, Ni-ah-gáh-rah (accent on the third syllable) seems to have been the accepted pronunciation, and is, no doubt, the really correct accentuation. The modern word, Ni-á-ga-ra, with the accent on the second syllable, is the now invariably-used form of the word ; but it is of more recent origin and devoid of the beautiful flowing articulation which was one of the greatest beauties of the Indian language, as exemplified by the very few survivors (and these of a great age, far beyond the Psalmist's three-score-and-ten years) of a rapidly-passing race.

As to the meaning of the word, there is great doubt, and eminent philologists differ materially as to its significance. The commonly-accepted interpretation, "The Thunderer of the Waters," is the most poetic. A more prosaic meaning is said to be "Neck," typifying the river as being a connecting link between the two lakes. A recent suggestion translates one of the forms of spelling (Ochniagara) as "bisecting the flats," this referring to that part of the river between Lewiston and Lake Ontario. The level land between the heights at Lewiston and Lake Ontario (which was at one time a part of the bed of this lake) being the "flats," "bisected" by the river, whose surface in this portion is some forty feet below the level of the land, and could not, therefore, have been seen by the migrating or traveling Indians until they reached its very banks.

Niagara appears to have been the name of a tribe, given by Drake as "Nicaragas," with the added note, "once about Machilimakinak, joined the Iroquois about 1723." This statement would seem to show that these Nicaragas were a portion of the Neuters (who were conquered by the Senecas in 1651); this remnant then escaping to the Northwest, and that seventy years later their descendants returned and joined the Iroquois, among whom, in 1651, the other survivors of the Neuters had been absorbed.

It was the Indian custom to name their tribes and the smaller subdivisions thereof from the most important natural feature of the country they inhabited, or to give their natal name to such feature. In support of this, witness the well-known names of these lakes and rivers: Huron, Michigan, Cayuga, Seneca, Erie, Oneida, Onondaga, and Mohawk, named for the tribes that dwelt along their borders. So the deduction is that the subdivision of the Neuters who dwelt along the Niagara River took their name from it and its famed cataract. Certainly, these were the chief natural features of the territory, and their principal village, situated just below the end of the lower rapids, and under the heights, bore the same name, for it was called Onguiaahra. The Neuters are referred to by Father L'Allement, in the "Jesuit Relation" of 1641, published in 1642, as "the Neuter Nation, Onguiaahra, having the same name as the river."

THE NIAGARA RIVER.

The Niagara, one of the world's shortest, but also one of its most famous, rivers, is thirty-six miles long,

twenty-two miles from Lake Erie to the Falls, and fourteen miles from the Falls to Lake Ontario.

Its sources are the basins of the four great upper lakes, whose watershed is over 150,000 square miles. The size and depth of these lakes are :

Superior, . . .	365	miles	long,	160	miles	wide,	1,030	feet	deep.
Huron, . . .	200	"	"	100	"	"	1,000	"	"
Michigan, . .	320	"	"	70	"	"	1,000	"	"
Erie, . . .	290	"	"	65	"	"	84	"	"

The river's depth, of course, varies. The deepest channel from Lake Erie to the Falls, along the center of which runs the boundary line between the United States and Canada — as determined under the treaty of Ghent, which ended the war of 1812 — lies to the west of Grand Island and to the east and south of Navy Island, with an average depth of twenty feet of water. Below the Falls, and extending down to near the cantilever bridge, the depth is 200 feet, as determined by United States Government surveys. Under the railroad bridges the depth is only about ninety feet. In the Whirlpool Rapids, as calculated, it is only forty feet. The depth of the Whirlpool is estimated at 400 feet. From there to Lewiston, it is estimated at sixty feet ; and from Lewiston to Lake Ontario at over 100 feet. It is unlike any other river. It is a full-grown stream at the first moment of its existence, and is no larger at its mouth than at its source.

Its width varies. It is a little less than one-half of a mile wide at its source, one mile just above the Falls, one-eighth of a mile above and at the outlet of

the Whirlpool, and only about one-sixteenth at its narrowest point, at Foster's Flats in the gorge.

It is but one link in the chain by which the waters of the great inland seas of fresh water are carried to the ocean. From the outlet of Lake Ontario to the ocean, the river is called the St. Lawrence ; which name, by the way, one hundred years ago, was commonly given to what we now call the Niagara River.

One hundred smaller lakes and many rivers and countless springs contribute their waters to these four lakes, and thus to the volume of the Niagara River, whose farthest springs are perhaps 1,500 miles distant.

The descent of the Niagara River, from lake to lake, is 336 feet, of which 216 feet are in the rapids above the Falls and in the Falls themselves ; distributed as follows :

	Feet.
From Lake Erie to the commencement of the rapids (twenty-one and a half miles), the descent is, . . .	15
In the half mile of rapids above the Falls,	55
In the Falls themselves,	161
From the Falls to Lewiston (seven miles),	98
From Lewiston to Lake Ontario (seven miles),	7
	<hr/> 336

It is stated that back in the "forties," during a heavy southern gale, the water rose to an estimated increase of six feet in the depth of the water at the brink of the Falls.

Below the Falls there is said to be an undercurrent of far greater velocity than the surface current, and to this is attributed the fact that bodies going over the Horseshoe Fall are not usually seen until they reach the Whirlpool.

The river is one of comparatively changeless volume ; it is not intermittent. Neither summer's drouth nor winter's cold seriously impairs its flow ; though, on unusual occasions, when, for brief periods, the water is high, a rise of one foot in the river above the Falls means a rise of sixteen feet in the river directly below — caused by the abrupt turn of the river's channel at the Falls and the lessening of the width from about a mile at the beginning of the rapids above to about a quarter of a mile at the base of the Horseshoe or Canadian Fall.

There is also a rumor (unaccounted for, but in general terms verified by the poorly-kept records of the last sixty years) that there is a flux and reflux of the waters of the Great Lakes, and, therefore, of the Niagara River, which reach the maximum every fourteen years, and the minimum in the corresponding middle periods.

THE FALLS THEMSELVES.

"Of all the sights on this earth of ours which tourists travel to see — at least of all those which I have seen — I am inclined to give the palm to the Falls of Niagara. In the catalogue of such sights I intend to include all buildings, pictures, statues and wonders of art made by men's hands, and also all beauties of nature prepared by the Creator for the delight of His creatures. This is a long word ; but as far as my taste and judgment go it is justified. I know no other one thing so beautiful, so glorious, so powerful."— *Anthony Trollope*.

Niagara, the ideal waterfall of and the grandest natural sight in the universe, is also the greatest in immensity and in the amount of water that pours over its brink ; although there are waterfalls in our own and in foreign lands that are higher.

Niagara is deceptive in its height. Viewed from above, either on the American or Canadian shore, or on Goat Island, one does not appreciate its altitude ; but viewed from below, at any point near the falling sheet, one begins to comprehend its immensity.

Edmund Burke never saw Niagara. Had he seen it, he would have modified his famous statement — “ I am apt to imagine that height is less grand than depth, and that we are more struck at looking down from a precipice than looking up at an object of equal height ; but of that I am not very sure ” — by making an exception in favor of Niagara Falls. The approach to most falls is from below, and we get an idea of them as of rivers pitching down to the plains from the brow of a hill or mountain ; but at Niagara the first view is always from the level of the upper river, or from a point above it. The Falls are in latitude $43^{\circ} 6'$ west, longitude $2^{\circ} 5'$ west from Washington ; or longitude $79^{\circ} 5'$ west from Greenwich.

The height of the Canadian Fall, over which flows about seven-eighths of the entire volume of water, is 159 feet.

The height of the American Fall is 165 feet, or about six feet higher than the Horseshoe Fall, the difference in levels being caused by the greater declivity in the bed of the river in the Canadian channel.

The Canadian Fall is about 3,000 feet in width along the brink ; the American Fall about 1,100 feet ; and the Goat Island cliff along the gorge is about 1,200 feet long.

The estimated volume of the Falls in horse power is about 3,000,000 ; in tons, 5,000,000 weight per hour, or about one cubic mile of water per week. Estimates thereof in barrels and in cubic feet have been given in the description of the Terrapin Rocks on Goat Island.

The rapids above the American Fall descend forty feet in half a mile. The rapids above the Horseshoe Fall descend nearly fifty-five feet in three quarters of a mile.

The top of the column of spray, that is ever rising from the gorge, can be seen on a clear day for many miles. It is said it has been so seen at a distance of fifty miles—that is, from Toronto, Canada—but this may well be doubted.

The roar of the Falls, it is claimed, has been heard for many, many miles—these claims have usually been made years ago by travelers. It must be borne in mind that the roar could doubtless be heard a much longer distance if the wind was blowing from the Falls toward the listener ; and, again, imagination or a desire to think one hears such a sound might add many miles to the actual distance. Again, let us remember that four score years ago this section was comparatively free from commercial noises. There were then no sounds from factories, nor the hum of city life ; there were no steam whistles nor locomotives, nor trolleys, nor telephone and telegraph wires ; all of which

to-day are constantly hereabout emitting sounds and noises. So, doubtless, when this section was a comparatively unbroken wilderness, eighty years ago, the roar of Niagara could have been heard by the simple ears many miles farther than it can be heard to-day.

In connection with the roar of the Falls, it is interesting to relate that, in 1897, a huge telephone transmitter was placed at the entrance to the Cave of the Winds (the other end of the American Fall was tried, but the results obtained were not as satisfactory), and each evening, between 7 and 10 o'clock, for a period of a month, the wire connecting this receiver with the local telephone office was put in direct connection, over the wires of the Telephone Company, with New York City, and hundreds of people paid a small fee each to listen to the roar of Niagara, 450 miles away; and at the same time power was nightly transmitted from the Niagara Power House over an ordinary telegraph wire to the same room in New York City, and there illuminated electric lamps and furnished current (less than half a horse power) to operate a miniature model of the power house itself and the adjacent territory.

A loud roaring of the Falls is locally said to indicate coming rain. This is true, as the rains hereabouts come from the southwest, and a southwest wind, which naturally brings the sound of the Falls over the city of Niagara Falls, is the prevailing wind.

The recession of the Falls is told of in the geological section, but we should note that the apex of the Horseshoe Fall, which is the point of the cataract's greatest erosion, has within the memory of men now living receded much more than 100 feet.

Hennepin speaks of, and his picture of Niagara (the first one known), published in 1697, shows, a third fall, at Table Rock. It seems to be true, as gathered from records, that at that time a large rock, situated near the western edge of the Canadian Fall, created a third fall as the water coursed around it ; but this rock has long, long since disappeared, disintegrated by the elements and its fragments washed away by the stream.

Indian tradition has told that the Spirit of Niagara has demanded, and always would demand, a yearly sacrifice of at least two human lives. It would seem that in the old days the Neuters estimated that at least one of these two lives would be furnished by accident, as they used to choose and give but one, the fairest maiden of the tribe, each year ; but as a fact, on an average, more than two lives are annually lost at, and by reason of, Niagara. Of the many deaths that have occurred in the waters at Niagara — some by accident, some by suicide, some by murder — it is to be noted that of the bodies that go over the Horseshoe Fall the most of them are subsequently recovered ; while bodies carried over the American Fall are seldom found, as they are caught and lodge among the line of rocks that lie at the base of that Fall, and are gradually dismembered by the force of the torrent.

But while human lives were thus sacrificed, and while bloody inter-tribal wars have raged on its banks, and later on, as late as in the War of 1812, descendants of the same stock have met within sight of the Falls in bloody international battles ; in antithesis, let it be recalled that, in 1861, Bishop Lynch of

Toronto consecrated the Falls of Niagara to the Blessed Virgin of Peace.

Charles MacKay thoroughly comprehended the Falls when he wrote: "To one, Niagara teaches turbulence and unrest; to another, it whispers peace and hope. To one, it speaks of time; to another, of eternity. To the geologist, it speaks of the vista of millions of years. But to me, if I can epitomize my feelings in four words, Niagara spoke joy, peace, order, eternity."

The most commonly asked question in regard to the Falls is, "Did they answer your expectations?" One of the best answers ever made to this question was the reply of a gentleman who had just been at Niagara, "they infinitely exceeded them." And in reply to the further question, "Do you think I shall be disappointed in them?" he answered, "Why, no, not unless you expect to witness the sea coming down from the moon."

Hartman and Mansfield, respectively, voiced the judgments of mankind when they said, "It is impossible for any description to exaggerate the glory and loveliness of Niagara. Nay, more, the longer you stay the greater must be your admiration"; and "In all the world there is but one Niagara, and all the world should see it."

THE FALLS FIRST SEEN BY WHITE MEN.

It would be most interesting if we could know the name and nationality of the first white man who ever gazed upon Niagara and the exact date of his visit.

In all likelihood he was a Frenchman, but there is no human probability that we shall ever know his identity.

Some student has advanced the idea that Samuel de Champlain, the founder of Quebec, and the first Governor-General of New France, who in his "*Des Sauvages*," published in 1603, made the earliest known reference to Niagara, was the first white man who ever saw them. Champlain, in his 1603 voyage, certainly did not get as far west as Niagara. While he was on Lake Ontario, years after, the universal consensus of opinion is that he never saw the Falls. Some one of the early French "*Coueurs de Bois*," or fur traders, may have been the man ; but, in the words of a noted local historian, "there is no name with which we can conjure with more probability of being correct, as having been the first paleface to gaze upon the great cataract, than that of Etienne Brulé."

Brulé was Champlain's Indian interpreter and confidant. He was on Lake Ontario in 1615, making, at Champlain's direction, "the long detour" to the Indians in what is now southern New York, and this journey may have been around the western end of Lake Ontario. No doubt he knew of the cataract, of which his master had heard and referred to in his book twelve years before. If he was in the neighborhood, it is not improbable that he asked his Indian guides to lead him to this wondrous fall.

According to a legend, the first white man to behold the Falls was a French priest, who was led one moonlight night by an Indian chief to Table Rock.

When the chief pointed to Goat Island and said it was the abode of the Great Spirit, and that no one

except warriors could reach it alive, the priest denounced the statement as false. The chief offered to test this priest's belief by taking him at once to the island, and the priest agreed. The chief led him upstream to a point above the head of the rapids, where they embarked in a canoe and soon reached the island, on which the priest stepped, and after worshipping his Maker, demanded the fulfillment of the chieftain's promise to become a follower of God if the priest trod the isle alive. The chief demanded a further proof, namely, that he would leave the priest on the island alive, and if when he returned the next noon he found him alive he would believe in his God. The priest agreed, only asking that he wait twenty-four hours, and that the next day, at sunset, he and his tribe should go to Table Rock. At that time he (the priest) would stand on the island's shore at the end of the big fall. When they saw that he was alive, if they would become followers of God, they should kneel, and across the gorge he would bless them. The chief paddled his bark canoe swiftly upstream.

The next evening, at sunset, the priest went to the edge of the Fall, and the Indians, who were on Table Rock, seeing that he still lived, knelt down and the priest —

“ Spake the word,
Though it was not heard,
And raised his hands,
As God commands,
And lifted his eyes to Heaven.
Thus in the way the church decrees,
To supplicants, tho' afar, on their knees,
Was the Benediction given.”

Then the priest, so runs the legend, in imagination again stood in a holy church, for—

“ It was three long years since he
Had stept within a sacristy,

A wondrous church it was indeed,
By Nature's changeless laws decreed,
Tho' man reared not the structure fair,
All churchly attributes were there !

The gorge was the glorified nave,
Whose floor was the emerald wave,
The mighty fall was the reredos tall,
The altar, the pure white foam,
The azure sky, so clear and high,
Was simply the vaulted dome.

The column of spray
On its upward way,
Was the smoke of incense burned,
And the cataract's roar,
Now less, now more,
As it rose and fell,
Like an organ's swell,
Into sacred music turned.

While, like a baldachin o'erhead,
The spray cloud in its glory spread,
Its crest, by the setting sun illumed,
The form of a holy cross assumed.”

Father de la Roche Dallion is the first white man known to have been on the Niagara River. He crossed it near the site of Lewiston, in 1626. But though we have no record of any prior visit of a white man, it is more than probable that such had been made.

INDIAN OCCUPATION OF THIS TERRITORY.

We do not know the name of the particular tribe that inhabited all this section of country prior to 1600. Soon after that date Champlain speaks of the Neuter Nation as living hereabouts. How long they had then existed as a nation, or how long they had then dwelt here, is unknown. So, before that date, whether the Indians who claimed the occupancy of these lands were a section of the Neuters (a section perhaps then, pretty certainly three or four decades later, known as the Nicaragas), or the predecessors of the Neuters, we can only refer to them by the broad, comprehensive term, "aborigines."

From about 1600-1650 the Neuters claimed, and in Indian mode of life occupied, all the lands on the north of Lake Erie from the Detroit River to the Niagara, and in this territory they had twenty-six villages. Their lands also extended for some twenty miles directly east of the Niagara River, and in this latter territory were four more of their villages, the most easterly being near the site of the present City of Lockport, N. Y., near which Indian mounds, a charnel pit full of human bones, and old forts or fortifications have been discovered and implements found. The most famous and probably the largest of their villages in the territory adjacent to the Niagara River, on both sides, was named Onguiaahra, and was located very near the river bank, where the village of Lewiston now stands. The land in and close about Lewiston is replete with evidences of Indian occupation, in the

nature of mounds and graves ; and many stone implements and ornaments have been unearthed there, although, as yet, the locality has not been thoroughly studied nor systematically searched.

On the south shore of Lake Erie, at its eastern end (their lands then probably adjoining the lands of the Neuters that lie east of the Niagara River on the north), was the territory of the Eries, who were probably the same tribe called both the Kah-Kwas and Cat Nation.

The Neuters derived their name from the fact that, although a warlike tribe, and often engaged in battle with other tribes, they lived at peace with the dreaded Iroquois, who dwelt east of them, and also with the fierce Hurons, who dwelt on and beyond their western boundaries.

These two latter confederacies were deadly enemies, yet Indian custom (which was Indian law) decreed that the warriors of these two nations, meeting in the wigwam, or even on the territory of the Neuters, must meet, and they did meet, in peace. The Neuters were also called by these two tribes "Attouander-ons," which means a people speaking a little different language. Their dialect was different from that of any other neighboring tribe, though understood by all of them.

But neutrality, as between two hostile Indian tribes, was no more a tenable position than it has often proved itself to be as between inimical nations of civilized white men.

In 1651, the Senecas, the westernmost as well as the fiercest tribe of the famous Iroquois Confederacy,

on some slight pretext, suddenly declared a war of extermination against the Neuters, invaded their territory, attacked and demolished their villages, killed most of the warriors, and annihilated the Neuters as a nation, the few survivors being incorporated among and adopted into the Senecas.

By this conquest the Senecas claimed title to the lands of the Neuters, although it does not appear that they ever exercised much, if any, actual ownership (unless by granting treaty rights) over any of the lands which lay west of the Niagara River, which was by far the largest, in fact almost the whole, of the Neuter's territory. This claim on the part of the Senecas, of ownership by conquest, more especially of that part of the Neuters' land lying east of the Niagara River, seems to have been acquiesced in by the other Indian tribes ; and over this land, lying in what is now Western New York, the Senecas continuously and jealously exercised all the rights of ownership ; although it was fully a hundred years before they actually occupied any part of it, save as camp sites for fishing and hunting, for they continued to occupy their original territory in the Genesee Valley.

La Salle, in 1678, dared not start to erect a fort or storehouse on the site of Fort Niagara, at the mouth of the Niagara River, nor construct his vessel, the "Griffon," above the Falls, until he had obtained the official consent of the Seneca chiefs.

De Nonville, in 1687, built his fort on the site of Fort Niagara ; but his army, which had just defeated (but not conquered) the Senecas in the Genesee Valley, was taken to the spot to erect it ; and no

sooner had that army left than the Senecas besieged the fort, and held its occupants imprisoned within its walls for months, until almost the entire garrison had died. And when a fort, under the guise of a store-house, was built by the French at Lewiston, in 1719, it was only after twenty years continued preparation and intrigue therefor, that the consent was obtained from the Senecas, and then only through the great influence of Joncaire, a Frenchman, but an adopted child of the Senecas, and for his personal use and profit, so that he personally had to reside in it and conduct it as a trading house.

In 1764, the Senecas' title to all this section was officially recognized by Great Britain; for at the great treaty held at Fort Niagara, by Sir William Johnson, the Senecas ceded to her a strip of land four miles wide, that is, two miles on each side of the Niagara River, and extending from Lake Erie to Lake Ontario; and at the same time they gave to Sir William Johnson personally all the islands in the Niagara River.

Even until after the Revolution the Senecas held an undisputed basic title to all the land on the eastern shore of the Niagara River, and, in 1780, granted two square miles to the Tuscaroras, a tribe driven by war from their original sites in North Carolina; and in the sale of the vast tract of land in Western New York by Massachusetts to Phelps & Gorham, in 1788, it was on the condition that the Indian (that is, Seneca) title be first extinguished.

It is not necessary to discuss the rights, how given and by what tribe, to the Mississagas (who once occupied the land on the western bank of this river from

Queenston Heights to Lake Ontario); nor those to the Chippawas, who removed from their ancient seats in Virginia to the western bank of the Niagara just above the Falls, where to-day stands a small village bearing their tribal name. Both of these small tribes have gone, and none of their descendants remain about their ancient abodes.

BRIEF HISTORY OF THE FRONTIER.

The Niagara Frontier, as the territory lying on both banks of Niagara River from Lake Erie to Lake Ontario is known, is a wondrous section. It is wondrous in many aspects ; wondrous in its geology ; wondrous in its scenery ; wondrous in its botany : wondrous in its hydraulic and electrical developments ; wondrous in its engineering successes ; wondrous in its literature ; and famous, if not wondrous, in its history.

The ownership of this section may be given as follows :

The Aborigines,	-1600
The Neuters,	1600-1651
The Senecas,	1651-1679
Seneca ownership, French influence predomi- nating,	1679-1725
Seneca ownership, French occupation,	1725-1759
Seneca ownership, British occupation,	1759-1764
British ownership and occupation,	1764-1783
Eastern Bank, American ownership, British occupa- tion, the Hold-Over Period ; Western Bank, Canadian ownership and occupation,	1783-1796
Eastern Bank, American ownership and occupation ; Western Bank, Canadian ownership and oc- cupation,	1796-1901

The historical associations connected with the territory along this famous river are numberless.

From the date of the first white man's entrance upon the scene, during the next fifty years visited by a few daring priests in their fruitless efforts to spread the Gospel among the Neuters ; later, the advent of the French, first officially in peace by La Salle, later by their hostile armies ; the steadily increasing influences and control of the French ; the incessant, but, for many years, futile efforts of the British to drive out their hated rival ; the swift and phenomenally successful campaign by the British in 1759, which suddenly made them the masters in place of the French ; the loss, twenty-four years later, at the close of the Revolution, by the British of all her territory lying east of the river ; the stirring scenes during the International War of 1812, and the Canadian internal Patriot and Fenian rebellions, make a list of noted events, mostly martial, to which (as well as to many peaceful, but equally important events) we can refer in but the briefest way.

Father Dallion, who was on the lower Niagara River in 1626, presumably then said the first mass in this historic region.

The White Man's history of this section may be said to begin with La Salle's first visit here in 1669, when he heard the roar of the Falls from Lake Ontario, and probably visited them. In December, 1678, he sent a vessel, on which was Father Hennepin, from the eastern end of Lake Ontario to the Niagara River, and a month later followed them himself. Five miles above the Falls he built the "Griffon," the first

vessel, other than a Indian canoe, that ever floated on any of the upper lakes. He also then built, at the mouth of the river, the wooden Fort Conti, the first white man's fortification hereabouts, which was accidentally destroyed by fire the same year.

In 1687, De Nonville, after defeating the Senecas in the Genesee Valley, came with his army to the mouth of the river, and built there the fort named after himself, "of poles with four bastions." He left 100 men in it, and as soon as the army had gone, the Senecas besieged it. After eight months of continued siege only twelve of the garrison were left. The next year, on the demand of the Senecas, abetted by England, the French were compelled to dismantle and abandon this coveted fort.

In 1719, Joncaire, a Frenchman, but an adopted child of the Senecas, of whom it is recorded that "he spoke with all the good sense of a Frenchman and with all the eloquence of an Iroquois," at the instance of France, obtained the consent of the Senecas to erect a cabin for himself on the river. He located it on the site of Lewiston, soon enlarged it into a "trading house"; made it the center of a vast territory for trade in furs, guns and brandy, and in due time made of it a fort, two stories high, forty feet long by thirty feet wide, built of logs, musket proof and palisaded, of which he was the commandant. As a fort it controlled the portage, which ran from it to the river, two miles above the Falls, over which passed practically all the fur trade of the great west.

In 1725, the Senecas consented to the erection of a stone house on the site of the present Fort Niagara.

Tradition says, when the materials were ready, all the Indians of the vicinity were asked to join in a hunt. On their return, after three days, the stone walls of the house had been raised to a height of over six feet, and thus the fort which France had so long desired at this point was an accomplished fact. Joncaire's trading house, having served its purpose as a means of erecting a permanent fort, was allowed to go to decay, and the first and the most important "trading fort" ever built on this frontier became merely a memory.

From 1725 on, additions, both in houses and in fortifications, were constantly made to Fort Niagara. Great Britain, who had unsuccessfully opposed the erection of the "trading fort," became annually more and more anxious for the possession of the existing fort, and, between 1753 and 1758, planned four expeditions for its forcible capture, but none of them ever reached it.

About 1745, France erected a storehouse and a stone blockhouse at the upper end of the portage, and, in 1750, extended the end of this portage half a mile up stream and erected there a permanent fortification, called Fort Little Niagara, it being a dependency of that strong and important fort.

Under the guidance of Pitt, Britain's 1759 campaign in North America completely overthrew French power on this continent. General Prideaux commanded the expedition against Fort Niagara, and besieged it. France had fortified, strengthened and enlarged it, until it was a formidable fortress, garrisoned by over 700 men, and embracing within its earthworks (the

earthworks of to-day are the remodeled works on the lines of those of 1759) some eight acres.

The seige parallels were built by the British on the lake shore, east of the fort, and are easily located, if not tracable, to-day. Sir Wm. Johnson succeeded to the command when Prideaux was killed by the bursting of one of his own coehorns.

Under orders from Pouchot, Fort Niagara's commander, on the arrival of the British army, Fort Little Niagara, on the upper river had been abandoned and burnt, and its garrison added to that of Fort Niagara. Pouchot also sent to the western French posts for aid. A large force hastened from the west to save Fort Niagara, France's most important fort west of the outlet of Lake Ontario. Pouchot had directed that this relieving force land on the western shore and march down to Lake Ontario, and then cross the river to Fort Niagara. Instead, it landed at Fort Little Niagara, then in ruins, and hastened over the portage on the eastern shore. Sir Wm. Johnson, apprised of its approach, met it in battle, a mile south of Fort Niagara, and quickly routed it. The defeated French fled back over the portage, reëmbarked in their boats and hastened westward, having first set fire to two vessels, that were in nearly finished construction, at Navy Island, above the Falls, in order to prevent their falling into the hands of the victorious British. From this circumstance the place where these vessels lay at anchor is still known as Burnt Ship Bay. This victory compelled the surrender of Fort Niagara, and Great Britain at last had a fort at the long-coveted spot. The surrender of Quebec soon followed, and French

power in North America was actually at an end. After the treaty of peace had been signed, France did not possess a foot of land in Eastern North America, where, at least in its northern and western parts, she had held supreme sway for over half a century.

The British were now absolute masters of the Niagara frontier and took steps to secure the allegiance of those Indian tribes who had been allied with the French interest.

Fort Schlosser was built at the upper end of the portage, to replace the burnt Fort Little Niagara, in 1760 ; for a fort there, a dependency of Fort Niagara, was a necessity, to protect the portage and the goods in transit over it and awaiting shipment at its upper end.

Up to 1760 the transportation of all goods, furs, military stores, etc , over this portage, seven miles in length, from the head of navigation on Lake Ontario, that is, from Lewiston, to the river above the Falls, had been done by the Seneca Indians. Just prior to 1759 over 200 Senecas were employed by the French in this way. Of course, each man's burden was small, about 100 pounds in weight. When the British became the masters, they planned cheaper transportation, by using wagons, thus permitting the heavy freight to be put up in very much larger packages. This, of course, largely superseded the employment as carriers of the Senecas, who, as a result of their employment, had been the firm friends of the French. Thus embittered against the British, they readily listened to the advances of Pontiac, when he planned his widely-extended conspiracy against them.

A contract had been made with John Stedman by the British to widen the portage and smooth its roadway for the use of the wagons. After two years' arduous labor this work was completed in 1763. The first wagon train from Fort Niagara to Fort Schlosser, escorted by about 100 soldiers and led by John Stedman, passed over it on September 13, 1763. The next day it returned, probably laden with furs. When the point now called the Devil's Hole, where the road runs close to the precipice, was reached, the Indian war whoop was heard, and from the forest on the higher land on their right came volleys of musketry, followed by an onslaught of Senecas, tomahawk in hand. The horses and oxen that drew the wagons were seized and led away by the Indians. The soldiers, who were not killed at the first fire, were tomahawked and scalped, and their dead bodies, together with the wagons, were tumbled over the cliff into the huge cavity. Only three of the 100 escaped. One man jumped over the cliff, and landing in the branches of a tree beneath concealed himself there. A drummer boy escaped in like manner. An Indian seized the bridle of the horse that Stedman rode. With his hunting knife, Stedman severed the bridle and, spurring his horse to full speed, dashed back up the road to Fort Schlosser, escaping unharmed from the shower of bullets aimed at him.

The British had maintained a small fort at the lower end of the portage. On hearing the sounds of musketry the entire garrison thereof, consisting of two companies, hastened up the hill and along the road, rightly guessing the cause thereof, by reason of their

knowledge of Indian nature. But the Senecas, expecting this action, had halted a little way north and ambushed and attacked this relieving force with such success that only eight men escaped. These fled to Fort Niagara, whose commandant, with a large force, hastened to the scene. But the Senecas had gone, and nearly a hundred mangled, bloody and scalped corpses, some on the portage and the balance in the Devil's Hole chasm, told the story of this fearful tragedy, planned by Indian cunning and unerringly executed with Indian ferocity.

Britain's first systematic attempt to better and to cheapen transportation had cost her 100 lives.

Stedman, who escaped from the massacre, claimed that the Senecas marveled so at his good luck, attributing it to the special protection of the Great Spirit, that they gave him all the land bounded by the Niagara River and the line of his flight from the Devil's Hole to Fort Schlosser. Stedman subsequently seems to have cleared and occupied a small portion of this vast grant (which embraced 5,000 acres), including in his cultivation a portion of Goat Island ; but when his heirs set up the claim as against the State of New York they could produce no proof of the grant. They claimed the deed had been left with Sir William Johnson, and was burnt when his residence was destroyed by fire. The Senecas do not seem to have acknowledged the grant, for right after the time when Stedman claimed it was made they deeded all that land, beside much more, to Great Britain. Stedman's heirs contested New York's title to this land, but were beaten and finally ejected.

Knowing full well the just retribution that would be meted out to them by Britain for this massacre, the Seneca chiefs laid the blame on the younger warriors, and in the fall sent a large deputation to Sir William Johnson to sue for forgiveness.

Britain had the control of this section, but she wanted more than that. She wanted the submission and the friendship of the Senecas and the undisputed title to the land where the portage was. Here was her opportunity, and Sir William Johnson improved it. He was too good a diplomat to demand a life for a life, and agreed to forgive the Senecas for the massacre on condition that a strip of land fourteen miles in length and four miles in breadth, lying along and on both banks of the Niagara River from Lake Ontario to above Niagara Falls (thus including the whole length of the portage) be given to the British crown. The Senecas had no alternative but to consent, and they agreed to complete the transaction the next spring at Fort Niagara.

Sir William Johnson now invited the Indian tribes of practically all of North America to meet him at Fort Niagara the next summer, and preparations were made to send a British army to the West to awe the Indians of that section and to conquer all who did not by treaty accept British sovereignty. Partly the hope of reward, partly the fear of punishment, induced the presence of representatives of all the tribes; and when, in June, 1764, Bradstreet's army landed at Fort Niagara, Sir William Johnson accompanied it. He found there the greatest gathering of Indians from all over North America that had ever assembled. The

Senecas, alone, to Britain the most important tribe of all, were not represented. They had not meant to keep their promise when they made it. A message was sent to them at their homes on the Genesee River, that unless they at once came and ratified their agreement Bradstreet's army would march against them and annihilate them.

General Bradstreet, forewarned by the "Devil's Hole Massacre," had made preparations to fortify the Niagara portage before his army crossed it. Captain John Montresor had reached Niagara some time before and by the time the army arrived had constructed along the portage eleven redoubts, or blockhouses, some 1,100 yards apart, between the brow of the mountain at the head of navigation and Fort Schlosser, and these had all been garrisoned and equipped with a cannon each. Bradstreet had also asked Sir William Johnson to obtain the Indians consent to the erection and maintenance of a depot of provisions, in other words a fort, at the source of the Niagara River, as a base of supplies for his army on its west ward march.

Montresor was ordered to build it, and selected a site on the western (now Canadian) shore of Lake Erie. Sir William then obtained the assent of the Indian tribes at the treaty gathering to its erection. Backed by the army, it mattered little to him whether the Senecas, who were not then present, but who were the owners of the land, assented or not. In a month, Montresor reported that Fort Erie was "defensible."

Meantime the Senecas, awed by the threat of annihilation, appeared at the gathering, and on Sir

William's formally asking their consent to the erection of Fort Erie, they, of course, consented. Sir William asked even more. He asked that now their deed of land to Great Britain, as promised the preceding fall, be enlarged to include a strip two miles wide, on each bank of the river from Lake Erie to Lake Ontario, thus more than doubling the size of the grant. The Senecas were obliged to consent, and thus paid to Great Britain, for her forgiveness for the Devil's Hole massacre, nearly 100,000 acres of land, located at what was then to Britain the most important point in America.

As the Senecas had scalped about 100 British at the Devil's Hole, they paid 1,000 acres for each scalp. For them it was cheaply-bought forgiveness. The Senecas also at this time gave to Sir William Johnson personally, "as a proof of their regard, and in remembrance of the trouble they had given him," all the islands in the Niagara River, covering some 20,000 acres. Fearing a loss of influence with them if he refused, he accepted the gift ; but, as the military law of that period forbade the acceptance by officers of gifts, he at once transferred them to the British crown. Then Goat Island, probably to-day the most noted piece of land in the Western Hemisphere, passed directly to the British crown, and that not by conquest nor by treaty, but by gift, practically "hush money."

Besides the erection of these twelve forts, one large and eleven small, Montresor at the time built, on designs furnished by some other engineer, the so-called "Old Lewiston Incline," the first railroad constructed

in America. It ran from the wharf which he built at the water's edge, at the head of the navigation of Lake Ontario, straight up the cliff to the top; was protected by a blockhouse above and by a small fort at its foot. Over it, during the period 1764-1796, passed substantially all the vast amount of freighting, both military and commercial, between the Atlantic seaboard and the Great West.

No other event of military importance marked British rule on this frontier until the Revolution. Fort Niagara controlled all the country east and north for some 200 miles, south for over a hundred miles, and west to the Mississippi.

The War of the Revolution, in actual hostilities, never reached the Niagara frontier, but Fort Niagara was a plague spot to the Colonists. Here John Butler and his son Warren (the latter of infamous memory) and Joseph Brant made their headquarters. Opposite the fort, on the Canadian shore, were quartered the famous marauders, Butler's Rangers, and their barracks are still standing.

At Fort Niagara were planned, and from it started out, all those murderous and devastating expeditions that ravaged Western and Central New York and Northern Pennsylvania during the Revolution, and to it these savage parties, both whites and Indians, returned from these expeditions, with their prisoners, scalps and booty, to exult and to carouse.

Among the expeditions planned at, and executed from, Fort Niagara were those that devastated Cherry Valley and Wyoming, the latter perpetuated in poetry by Campbell's "Gertrude of Wyoming."

So unbearable had these assaults become that, in 1779, General Washington sent General Sullivan to conquer the Senecas and to capture Fort Niagara. He defeated, but did not conquer, the Senecas in the Genesee Valley, and they fled to the protecting guns of Fort Niagara. Had Sullivan obeyed his orders he would have easily captured this fort, for he would have found it feebly garrisoned and surrounded by a cowed and famished throng (some 5,000 in number) of Indians; and the Revolution might have been shortened. But, assigning lack of boats for transportation and lack of provisions for his troops as reasons, he did not attempt to reach the objective point of his expedition, and returned East. Fort Niagara remained in British hands, a place of intrigue, imprisonment and moral degradation, till the end of the Revolution.

At the close of that war, Great Britain retained five posts on what, by the treaty, was American soil, as a guaranty for the fulfillment of certain rights pledged by the Colonies to those residents who had sided with Britain, known as the U. E. or United Empire Loyalists. Niagara and Oswego were two of these posts, the others being in the West.

When the treaty was signed it was anticipated that they would be so held but a short time. In fact, they were held for thirteen years, a period known in history as "The Hold Over Period." One route by which these U. E. Loyalists emigrated from the United States led by Fort Niagara, and fully 10,000 people went to Canada between 1783 and 1790 across this frontier.

After repeated requests for the evacuation of these five posts, to which no attention was paid, Jay's Treaty with Great Britain, in 1794, stipulated for their evacuation by June, 1796. Fort Niagara was evacuated by the British on August 11, 1796, and part of her garrison crossed the Niagara River to Fort George, which had been built, but only as a small fort, directly opposite Fort Niagara.

A portage around the Falls, on the Canadian side, between Queenston and Chippawa, was also finished this year, to replace for British use the portage on the American side, which now passed from their control. This Canadian portage was never extensively used, as Canada's western posts were never of great importance. A blockhouse at its upper end, named Fort Chippawa, was built at the same time and garrisoned.

In 1792, General John Graves Simcoe was appointed the first Governor-General of Upper Canada. Believing and hoping that the American Colonies would soon be reconquered by the British, and that Fort Niagara would never be surrendered, he located his capital at Niagara, at the mouth of the river opposite to and controlled by the guns of Fort Niagara. Here he made his residence, and here it still stands, though not on the original site, a long, low, one-story wooden building called Navy Hall. Here, in 1792, he opened the first session of the Parliament of Upper Canada, one of whose acts was to declare against the existence of slavery in that province. When it was certain that Fort Niagara was to be evacuated, Simcoe removed his capital from its frontier location, across the lake, to York, now Toronto.

The dispute between Massachusetts and New York in regard to the ownership of what is now Western New York was settled by the former taking the title and the latter the jurisdiction thereof ; but on the American Niagara Frontier a strip of land known as the " Mile Strip," being one mile in width back from the river, and extending from Lake Ontario to Lake Erie, was exempted from the sale made by Massachusetts to Phelps and Gorham in 1788 ; the most of which land later passed to Robert Morris, and later to the Holland Land Company. Lots in the mile strip were offered for sale by New York in 1804, and settlement along this frontier began at once.

Fort Niagara was continually garrisoned by the Americans ; and Fort Erie, which had been rebuilt on a near-by site about 1781, and on still another site about 1807, was likewise garrisoned by the British.

For the struggle known as the War of 1812, in which the differences between the United States and Great Britain were bound sooner or later to terminate, some advance preparations were made on both sides of this frontier. As noted, the Canadians, in 1807, rebuilt Fort Erie with stone buildings and the customary earthworks ; but they built only the part facing the river, leaving it practically unprotected on the land side. About 1804, Fort George, at the mouth of the river, had been enlarged as to buildings and surrounded with earthworks ; and about 1809, General Brock doubled its capacity and strength, by the erection, on its south side, of extensive earthworks and structures.

The Niagara Frontier felt not only the first but the continued effects of the War of 1812. On the declaration of war in that year the British were the better prepared on this frontier. The Americans hurried troops and munitions here, and General Van Rensselaer established his camp at Lewiston. The British built Fort Drummond, an earthwork on Queenston Heights, and strengthened Fort Erie ; and the Americans built a like structure, Fort Gray, on Lewiston Heights, and also a battery, named Fort Tompkins, on the river shore in Buffalo.

The Americans, in October, 1812, crossed the river, invaded Canada and captured Queenston Heights and Fort Drummond. General Brock sent reinforcements from Fort George and hurried to the heights in person. In one of the charges, to retake the heights, he fell mortally wounded.

The British reinforcements recaptured Queenston Heights, killing many Americans, and in their fury bayoneted and hurled them down the steep, partly wooded, face of the cliff. A large body of American Volunteers, who were in camp at Lewiston, looked on and basely refused to cross the river to aid their countrymen, and the disastrous battle of Queenston Heights ended in a decided victory for the British.

During the battle, Fort George and Fort Niagara bombarded each other, and the following month another lengthy exchange of shots occurred. The river front, on both sides, was also fortified ; in fact, on the American shore for a mile south of Fort Niagara and on the Canadian side for about a mile north of Fort George, there was an almost continuous

line of batteries, and there were several batteries on both shores between Queenston Heights and these forts. A cannonade between two forts, three-fourths of a mile apart, lasting a whole day, during which 4,000 shots were fired, but in which few men were killed or wounded and neither fort very seriously damaged, shows the inefficiency of the artillery of that date.

In May, 1813, transports having been built and the American fleet having arrived, an attack from the lake was made by the American troops, under cover of the guns of Fort Niagara and of the fleet. The British batteries at and beyond the mouth of the river were carried, and inside of an hour Fort George and all its dependent batteries were in the Americans' control. They held it till December of that year, when, on the approach of a strong British force, the incompetent McClure decided to abandon it. He sent the garrison over to Fort Niagara, and gave the people of the village of Newark (around Fort George) twenty-four hours to move out. Then he set fire to that village and it was destroyed, the inhabitants suffering bitterly from the cold. The act was unnecessary, particularly as McClure left the buildings and fortifications of Fort George intact, and failed to remove a large number of tents and provisions.

On entering Fort George and seeing the ruined village of Newark, Colonel Murray said to his commander, General Drummond, "Let us retaliate by fire and sword." "Do so, swiftly and thoroughly," was the reply.

General McClure went to safe headquarters at Buffalo, leaving Captain Leonard in command at Fort

Niagara. Under the circumstances, an attack on that fort might have been expected at any time. Yet a week later, when the British by night crossed the river, five miles above, and silently marched to the fort, carrying all the paraphernalia for an assault, they found the gates open and unguarded. Its commander, Leonard, was at his own home, four miles away.

The sentinels were seized, and such little resistance as could be offered by men rushing from their beds was quickly overcome. Few shots were fired. The bayonet was the weapon, revenge the watchword. Little, if any, attempt was made to curb the British soldiers' ferocity, and many of the garrison, especially those in the hospital, were bayoneted after all resistance had ceased. About twenty Americans escaped, eighty were killed, fourteen wounded (this figure tells the story of revenge), and 240 made prisoners. Once in control of the fort, the British fired a cannon as a signal, and Riall (a fit leader for blood-thirsty whites and Indians), who was in waiting, crossed to Lewiston and commenced the work of devastation.

In turn, Lewiston, Youngstown, Manchester (now Niagara Falls) and Schlosser were reduced to ashes, and, on December 31st, the village of Buffalo was burnt. The American frontier was in ruins and the inhabitants fled for their lives.

The year 1814 was to witness more carnage. In July the Americans appeared before Fort Erie and demanded its surrender, and its commander surrendered it and 140 prisoners without opposition, to British disgust.

So here, at the source of the river, on British soil, the Americans held a British fort ; while thirty-six miles away, at its mouth, on American soil, the British held the American fort Niagara, a stronger fortification.

Two miles above the Falls, on the Canadian side, on July 5, 1814, was fought the battle of Chippawa ; and on July 25, 1814, was fought the battle of Lundy's Lane, opposite to and a mile back from the Falls.

The battle of Lundy's Lane is historic ; commenced at sundown, it was waged, with alternate reverses, in hand-to-hand conflict, till after midnight. In sight of the Falls of Niagara, with its roar mingled with the din of battle, in the glory of the light of a full moon, this battle, so fearful in its death list, continued for six hours. The central point was a hill where the British had a battery. General Scott asked Colonel Miller if he could capture it. "I'll try, sir," was his historic response. He did capture it, and for the rest of the battle the Americans held it against repeated attacks by the British.

At last the British attack ceased and they withdrew. Scott had been wounded. Brown was in command. He ordered the Americans to withdraw from the field, actually leaving the cannon, that had cost so many lives to capture and to hold, on the hill. Other officers protested ; but the order was given and obeyed. At daybreak the British returned and, unopposed, occupied the hill. On that account they claimed, and even until to-day claim, a victory ; and on each recurring anniversary of the battle they celebrate on the battlefield a great victory, which in the opinion of their American cousins they did not win.

On the battlefield stands a beautiful monument, erected recently by the Canadians in honor of their heroes in that battle. In the soil around it lie the bones of many an American hero. The consent of the local Provincial and Dominion authorities would doubtless be granted if asked ; therefore, should not a fitting monument be erected on that field to the American heroes who fell in that battle ? Thus the descendants of those heroes on both sides would be equally honored by their respective descendants, who to-day live not only as neighbors but in the bonds of affection.

The Americans after the battle of Lundy's Lane (Bridgewater or Niagara, as it is often called) retired to Fort Erie, and were there besieged by the British. The Americans enlarged the fort by the addition of two bastions on the land side, connected together, and also with the respective sides of the old fort by curtains of earthwork. They also built a long abattis from the fort to a point on the lake shore, some hundreds of yards away. Their camp lay between this abattis and the river, so that Fort Erie, as added to by these fortifications, now faced inland.

The British built siege batteries, and in one of their night assaults on the fort they captured the northwest bastion. When filled with their advancing troops a terrific explosion, with terrible loss of life among the British, occurred. Whether the magazine at this point was ignited by accident or design is unknown, but the explosion saved the fort from a probable capture by the British, and ended the assault.

Later on, General Peter B. Porter planned a sortie from the fort, and General Brown, who was in

command, at last consented, asking General Porter to lead it. The sortie was made at night by a detour through the woods. After a short but sharp struggle the British were defeated and driven away and their siege batteries and entrenchments destroyed.

Fort Erie was thus saved. Lord Napier says it is the only instance in history of a besieging army being entirely defeated and routed by a single sortie. The fort, of no real use to the Americans, was mined and blown up in November, 1814. Its ruins stand to-day, an object of interest and veneration to both Americans and Canadians; the bastions and curtains are perfectly traceable, and parts of the stone barracks remain.

There were no further hostilities along this frontier, and the next year, 1815, the Treaty of Ghent put an end to the war. The British evacuated Fort Niagara in 1815, and peace has since prevailed between the inhabitants of the banks of the Niagara.

In 1825 the Erie Canal was completed, and at Buffalo, with due ceremonies, the waters of Lake Erie were let into its completed waterway.

In 1825, Mordacai M. Noah of New York City formed a plan to erect on Grand Island, in the Niagara River, an ideal community of wealth and industry for the Hebrew race. As the High Priest of the project, he even went so far as to lay the corner stone of this New Jerusalem, not on the site of his future city, but on the altar of a Christian church in the City of Buffalo. In this ceremony he was clad in sacerdotal robes, and was attended in procession by military and civic authorities, local societies, and a great concourse

of people. The Patriarch of Jerusalem refused his consent to the project, money did not pour in to its support, and it was abandoned.

Next year, William Morgan of Batavia threatened to disclose the secrets of Masonry in print. He was arrested on a trivial charge, taken by night in a carriage through Lewiston to Fort Niagara, and imprisoned in the old French Magazine. That fort was not then garrisoned, and was in charge of a caretaker. Several people, mostly Masons, visited Morgan, and all sorts of stories are told as to his death. The accepted one is, that he was taken by night in a boat out on the lake and thrown overboard, his body being heavily weighted. Certainly, he disappeared, having been last seen alive at Fort Niagara. Several persons were arrested and tried in consequence, but no actual proof of Morgan's death could be produced.

A survey, the first regular and systematic one, for that long projected, as yet unfulfilled, but probable future certainty, ship canal around Niagara Falls was made in 1826.

In 1837 occurred the Patriot Rebellion in Canada. One event in connection therewith is of special interest, as it nearly embroiled the United States and Great Britain in war. The Patriots had a camp on Navy Island above the Falls. An American steamer made daily trips between Buffalo and that island. The British claimed she carried supplies and recruits to the Patriots. Her owners said she carried excursionists only. On the night of December 29, 1837, she lay moored at Schlosser Dock, on the American shore, two miles above the Falls. After midnight, six boat-

loads of British soldiers from Chippawa noiselessly approached, boarded her, turned off all on board, cut her cables, towed her nearly across the river to the deepest channel, set her on fire and let her drift over the Falls. During the attack on the boat one man, Amos Dufee, an American, was killed. The British Government assumed full responsibility for the outrage. One man, a Canadian, Alexander McLeod, was later arrested on American soil and tried for the murder, but was acquitted. International feeling ran high, but, finally, the British Government tendered an apology and war was averted.

POINTS OF HISTORIC INTEREST ALONG THE NIAGARA RIVER.

ON THE AMERICAN SIDE.

Buffalo, at the source of the river, is the eighth city of the Union in point of population, which in 1900 was 355,000. It is famous as the western terminus of the Erie Canal, and also as the chief eastern port of lake navigation. It is situated twenty-two miles from the Falls. It was a village in 1813, when it was burned by the British, only one or two houses being left standing.

Black Rock, formerly a village, now a part of Buffalo, was famous in the War of 1812. Inside of the present limits of Buffalo, along the river shore, some seven or eight so-called forts or batteries were located ; as was also a blockhouse, built about 1810, at the mouth of the creek. In Black Rock, General Smythe of Virginia collected 5,000 men, who responded to

his bombastic circular asking all to retrieve the Nation's honor and share in the glory of an invasion of Canada. There was no invasion of Canada at that time, though there was much fighting, and two invasions at other periods during the war.

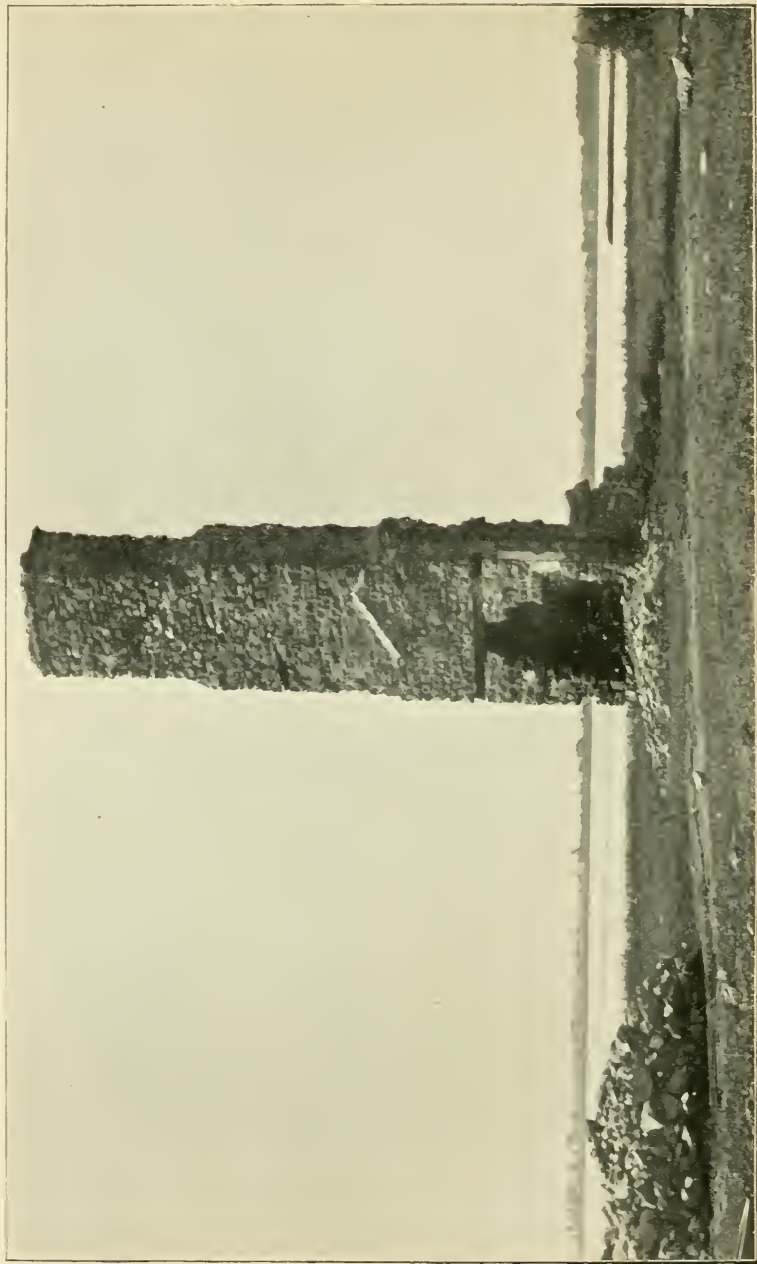
Grand Island is noted as the proposed site, in 1825, of Major M. M. Noah's "New Jerusalem," or the industrial center for the Jews of the new world. Beyond the laying of the corner stone, with due ceremonies, on the altar of a Christian church, in Buffalo, the project never made any advancement.

Tonawanda, eleven miles above the Falls, is famous as a lumber market, holding the second place in America, or next to Chicago, in the amount of lumber handled.

The village of La Salle, five miles above the Falls, close to the mouth of Cayuga Creek, was named after the famous explorer La Salle, who at this very point, in 1679, built his vessel the "Griffon," the first craft, other than an Indian canoe, that ever floated on the upper lakes. Here, too, about 1800, the United States Government established a navy yard.

Burnt Ship Bay, at the lower end of Grand Island, derives its name from the fact that there the defeated French (who hastened from the West to aid in the defense of Fort Niagara, in 1759), in their flight, burnt and sunk two small vessels, in order to prevent their falling into the hands of the victorious British.

At Schlosser Dock, on the night of December 29, 1837, occurred the "Burning of the Caroline." She was an American boat and was thought to be rendering aid to the Patriots on Navy Island. Six



THE OLD STONE CHIMNEY, BUILT 1750.

boatloads of British soldiers crossed from Chippawa, seized her, towed her far out into the stream, set her on fire and let her drift over the Falls. The incident came very near to involving the United States and Great Britain in a war.

Below Schlosser dock, and midway between it and the old stone chimney, was located Fort Schlosser, built by the English in 1761, and named after its builder. Just below this was located Fort de Portage, or, Fort Little Niagara, built by the French about 1750. This was burned by Joncaire in 1759. He was in command, and demolished the fort, retreating to Chippawa, and from there going with the garrison to aid in the defense of Fort Niagara. The sites of each of these two forts are in the midst of the manufacturing district, and have been practically obliterated by the erection of mills or by the filling in of the low water beyond the former river banks. A strip along the shore at this point, covering approximately 150 acres, having been filled in with the rock taken out in the excavation of the great tunnel. Just below here stands an isolated stone chimney, the oldest remaining bit of perfect masonry on the frontier, if not in all Western New York. It was attached to the barracks which the French built for Fort Little Niagara, and was also attached to the mess house which the English built in connection with Fort Schlosser.

The road running back into the country, which does not now extend down to the chimney (but formerly did), is still called the Portage Road, and was the old road over which, from the middle of the last century, was carried all the vast freight going to and coming

from the West. Less than half a mile up this road from the river are still to be plainly seen the earth-work outlines of a blockhouse built by Captain Montresor in 1764. This was one of eleven built by him that year to protect the portage between Fort Schlosser and the top of the mountain above Lewiston.

The Niagara Falls Power Company's power house, the greatest power-producing plant in the world, is on the river bank a short distance below. This is fully described at the end of the scenic section of this book.

Below the next mill the river runs in close to the road, and the spot is still known as Frenchman's Landing. This was the upper end of the earliest French portage from Lewiston to the upper river ; was in use from about 1700 in a small way, and from 1720 to 1750 as a much-used highway of commerce. Here, in 1745, the French built a stone blockhouse and a storehouse, known as the first Fort Little Niagara.

Next come the Niagara Rapids and Falls, and the Reservations, fully described heretofore.

The small settlements at Schlosser and Manchester (now the City of Niagara Falls) were burnt by the British in 1813.

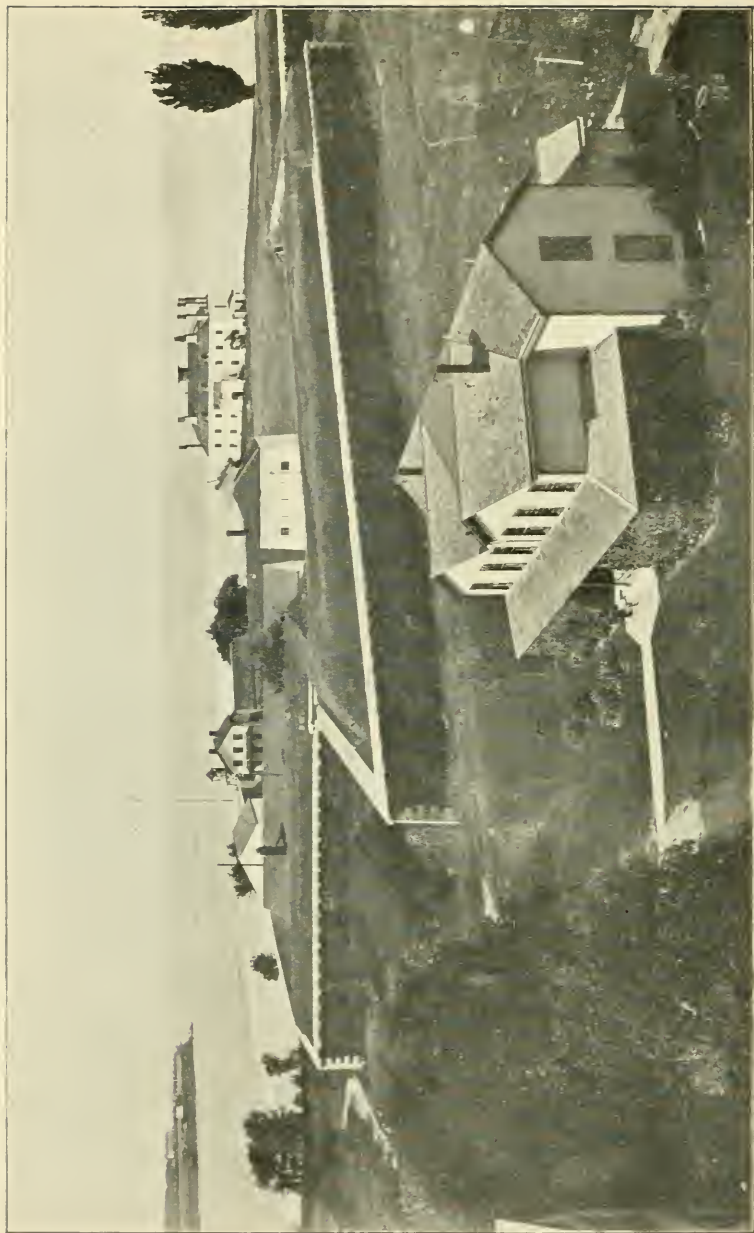
No point of immediate historic interest occurs until we reach the Devil's Hole, a spot famed as the site of the "Massacre" of the British by the Senecas, in 1763, one of the most noted historic incidents on the frontier, and more fully told in the sketch thereof.

The Tuscarora Reservation, containing some 6,000 acres, lies above the mountain, some three miles east.

The Tuscaroras were the first settlers along this frontier, in 1780 and have always been the firm friends of the United States.

The bluff on top of the mountain, six miles from the Falls, is, geologists tell us, the old shore of Lake Ontario, a fact which seems to be undisputed, and for further information of which we refer to our geological section. On this bluff, in 1678, and at this point, stood Father Hennepin and La Salle, having climbed up the steep ascent from the plain below, which, from its three plateaus, Hennepin calls the "three mountains." Here, in 1764, was built the first of the eleven block-houses above referred to. Here, also, was located the upper end of the first railroad ever built in America. It was built of logs laid on crude piers and ran, in a presumably straight line, from this spot on the cliff directly down the edge of the bluff to the water. True, it was of wood, but cars ran on it. It was operated partly by hand power which the Indians supplied; for an Indian brave, who would scorn any other manual labor, was content in those days to work at the windlass for a whole day, receiving in payment about one pint of whiskey and a plug of tobacco, luxuries unobtainable in any other way.

Over this incline, which was built by Captain Montresor, and which continued in active operation for over thirty years, was carried the entire freight going westward; not only the boats, cannon and military stores for all the western English posts, but also the vast amount of freight of every description and the boats and goods of that large force of men who were known in history as fur traders.



FORT NIAGARA, AN HISTORIC SPOT.

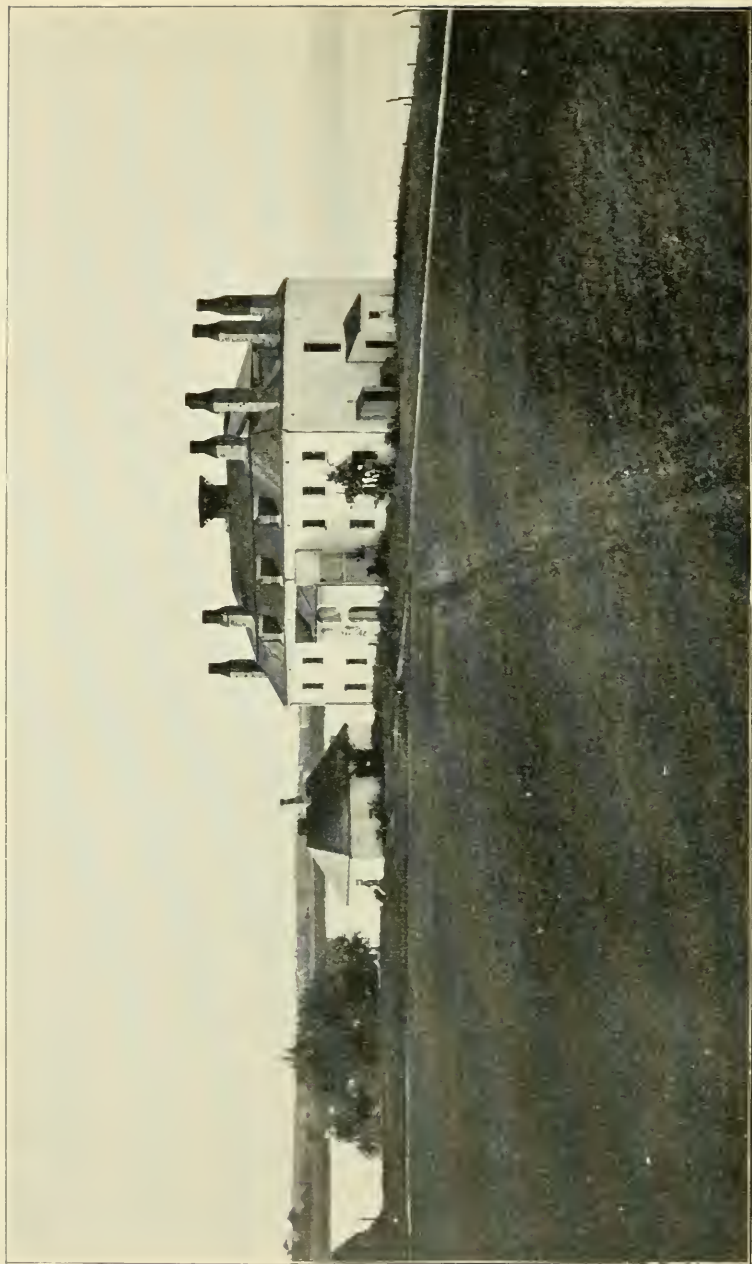
At this point on top of the mountain, also, was located Fort Gray in the War of 1812.

The village at the foot of the mountain is Lewiston, named for the Governor, Morgan Lewis, of New York, and was once a place of importance as the head of the navigation on Lake Ontario. It is an historic old place, though often referred to as a back-number town, and was a famous point in history. On its site is believed to have stood the important village On-guiaahra, of the Neuters.

At the foot of the bluff above the village ended the incline railway already spoken of, and close to it were the rude wharves to which came the light-draft, old-fashioned and clumsy vessels of various descriptions that brought, mainly from Oswego, all the stores, both military and commercial, destined for the Far West.

On the first plateau above the river overlooking these wharves stood the storehouses in daily use for all this merchandise during the last half of the eighteenth century, and here was located, for their defense, the English fort from which the ill-fated two companies started for the Devil's Hole. Near here, too, in 1678, Father Hennepin landed and built a little cabin of palisades, and said one of the early masses celebrated on the river. It could not have been the first, for we know that Father Dallion was on this river as a missionary in 1626, and to him, therefore, no doubt belongs the honor of being the first celebrant on this frontier.

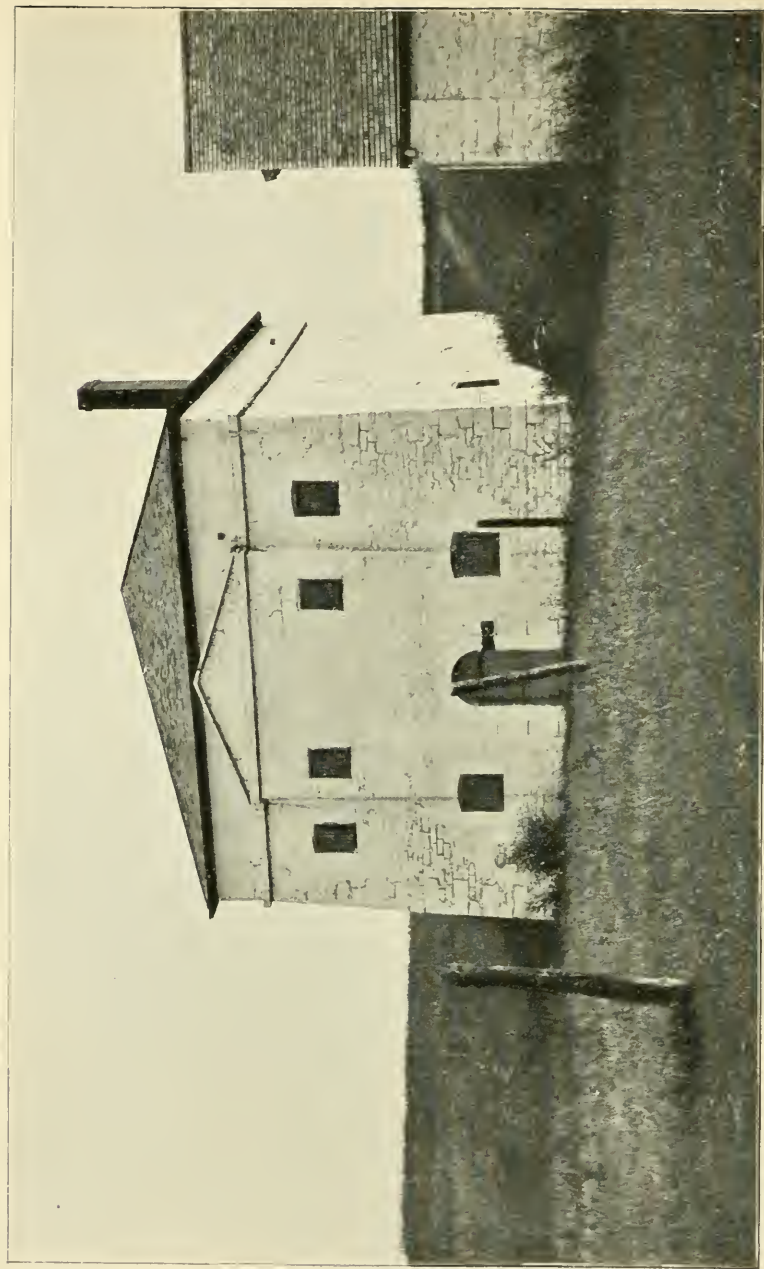
In 1719 was built the first trading house on the Niagara. Erected under peculiar circumstances, it was



THE CASTLE AT FORT NIAGARA, COMMENCED 1725.

destined to be a point of vast historic importance. From 1688, when England compelled the destruction of Fort De Nonville, which stood where Fort Niagara now stands, both she, the victor, and France, the vanquished, desired the reërection of a fort at this location. Chabert Joncaire, a Frenchman by birth, a Seneca by adoption, and a power among the Indian tribes, and whom Charlesvoix describes as "speaking with all the good sense of a Frenchman and with all of the eloquence of an Iroquois," was so beloved by the Senecas that they wanted him to make his dwelling place amongst them, offering him the location of a site wherever he chose, and to locate one of their villages around him.

Pursuant to French instructions, he located his cabin on the river bank at Lewiston. It was called "Magazin Royal," and was ostensibly a trading house, but in reality it was a fort. Over it floated the flag bearing the lilies of France. Its attendants were all French soldiers, and ere a year had passed it was described as a heavily-built log house, forty feet long by thirty feet wide, two stories high, musket proof, with many portholes in its upper story, and surrounded with palisades. It was possible to locate the fort on this plea at this point, because Lewiston was the head of navigation on the river, and Fort Niagara, where the fort was really desired, was seven miles away, and a fort could not be built there with the same pretense. Joncaire's house stood for about six years, and then the French obtained the consent of the Senecas to build a dwelling where Fort Niagara now stands.

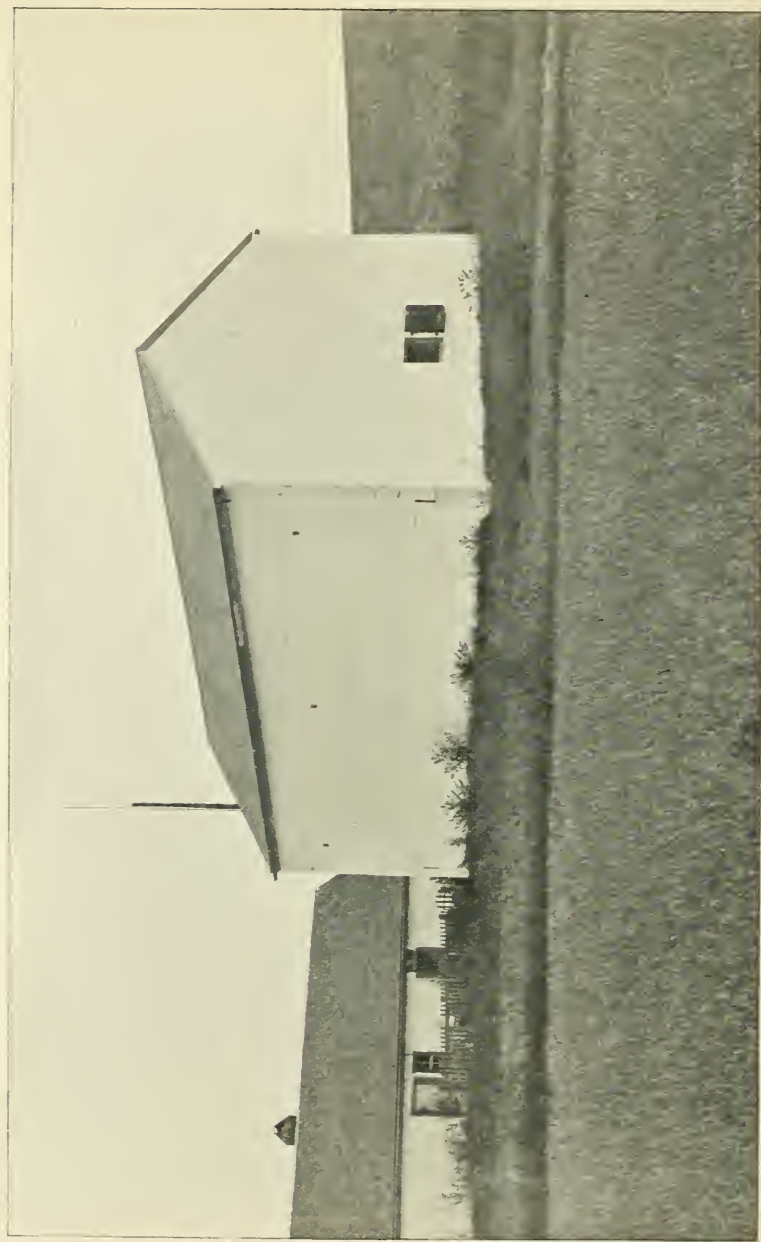


BRITISH BLOCK HOUSE AT FORT NIAGARA, BUILT 1770.

Two miles below Lewiston are the five-mile meadows, where, in December, 1813, the British crossed the river for their night attack on Fort Niagara.

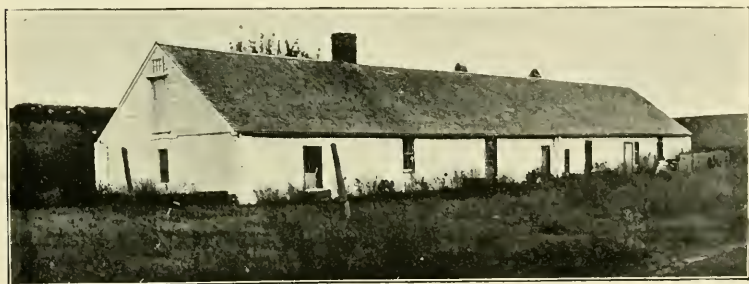
Fort Niagara, one of the most historic spots in North America, stands to-day practically defenseless, but bearing within its walls the relics of almost two and a half centuries. On this point of land, in 1669, La Salle built the first structure, other than an Indian wigwam, ever erected on this frontier. On this site, in 1678, La Salle again built a structure which he called Fort Conti. On its ruins, in 1687, De Nonville built the ill-fated fort that bore his name, which was besieged by the Senecas as soon as the army departed, and which was destroyed the following year, on the demand of the Senecas, acting under British instigation.

In 1725, the French erected, by consent of the Senecas, a stone structure on the present site of the Castle, whose foundations are to-day no doubt the oldest existing masonry west of Albany. This fort was gradually strengthened and enlarged by the French until, at the time of its attack by the British in 1759, it was as strongly fortified and protected as the science of that day, with such material as could be gathered at so far-off a point, could possibly make it. The history of that siege, including the three parallels built by the British along the lake shore, the death of General Prideaux, and the subsequent defeat of the French relieving force from the West by Sir William Johnson, thus acquiring for England that spot which for over half a century she had desired to own, and where for at least a score of years previously her hated



FRENCH MAGAZINE AT FORT NIAGARA — LATER, MORGAN'S DUNGEON.

rival, France, had maintained a center of military and commercial activity, are matters of history that cannot be told in the limits of this book ; but, of the buildings that stand in Fort Niagara to-day, the lower part of the stone walls date back to 1832, and the upper part of these walls to about 1861. The earthworks were constructed at least one hundred and fifty years ago, while their brick facings date only from about 1861. The large building, the Castle, or mess house, dates from 1725. Its foundation is the oldest masonry on the frontier. The first and second stories of stone date back prior to 1759, while the timbered roof dates from just prior to the American Revolution.



OLD FRENCH BARRACKS, FORT NIAGARA.

It was the center of the history of the middle part of North America for over one hundred years, and during the eighteenth century its commandant, whether English or French, was the most important man west of New York. The two stone blockhouses, the best extant specimens of their kind in America, were built in 1770 and 1771 by the British. The old bakehouse, built in 1762, replaced the earlier structure. The



THE RUINS OF OLD FORT ÉRIE.

hot-shot furnace, first built prior to 1812, was rebuilt some fifty years ago.

The long, low stone barracks were constructed by the French about 1750, and about that same time they built the square magazine which stands to the right of the entrance gate. The roof of this magazine is a huge, thick stone arch, the modern shingle roof having been erected over that.

In 1826 this building acquired a national fame, for to it was taken by night William Morgan of anti-Masonic fame. Here, tradition says, he was confined for three days, and within its walls he was last seen alive; and from it by night, according to popular tradition and belief, he was taken into a boat, rowed out into the lake, weights were attached to his body, and he was pushed overboard.

Between the fort and the village of Youngstown, along the river shore, a line of batteries extended during the War of 1812.

“Niagara is without exception the most important post in America and secures a greater number of communications, through a more extensive country, than perhaps any other pass in the world.” So wrote Major Wynne in 1770. His opinion was probably correct, for no one spot of land in North America has played a more important part in the control, growth and settlement of the Great West than the few acres embraced within its fortifications. Its cemetery is the oldest consecrated ground west of Albany. The capture of this fort by the British, in 1759, was the death knell of French rule in western North America.

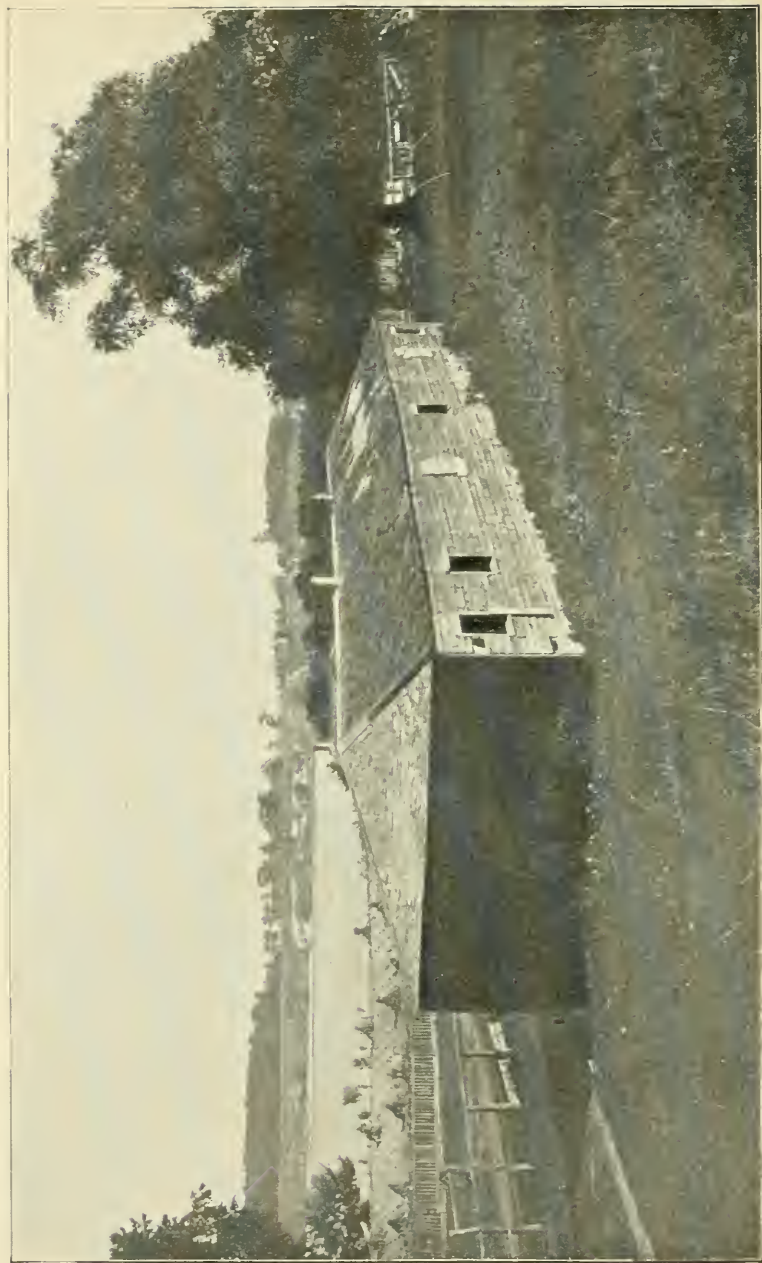


CHIPPAWA CREEK.

At the source of Niagara River stand the ruins, part of stone, part of earthwork, of Fort Erie, famed in the War of 1812. The first fort built near this site was in 1764, as a depot of supplies for General Bradstreet's army. The waves of the lake undermined and battered the foundations, so that, about 1781, a new location, nearer the source of the river and on the bluff out of the reach of the waves, was selected, and a second fort was built. In 1807 this was abandoned and part of the earthworks on their present location were constructed. It was enlarged by the British, in 1812, by the addition of the stone buildings which face the river; and still further enlarged, in 1814, by the Americans, when in possession of the fort for the second time during that war, by the addition of two large bastions and connecting works in the rear and on the side. In 1814, the Americans, after the battle of Lundy's Lane, established themselves in this fort, and here soon afterwards they were besieged by General Drummond.

A little way down the river, and extending inland, the British established a line of siege works and two batteries, and in the northwest bastion, during one of the British attacks on the fort, occurred one of the most tremendous losses of life, due partly to hand-to-hand conflict and partly to the explosion of the magazine, that has ever occurred in any war in so small a space.

From Fort Erie, on September 17, 1814, the Americans made that famous sortie planned and led by



NAVY HALL, NEAR FORT GEORGE, BUILT 1792.

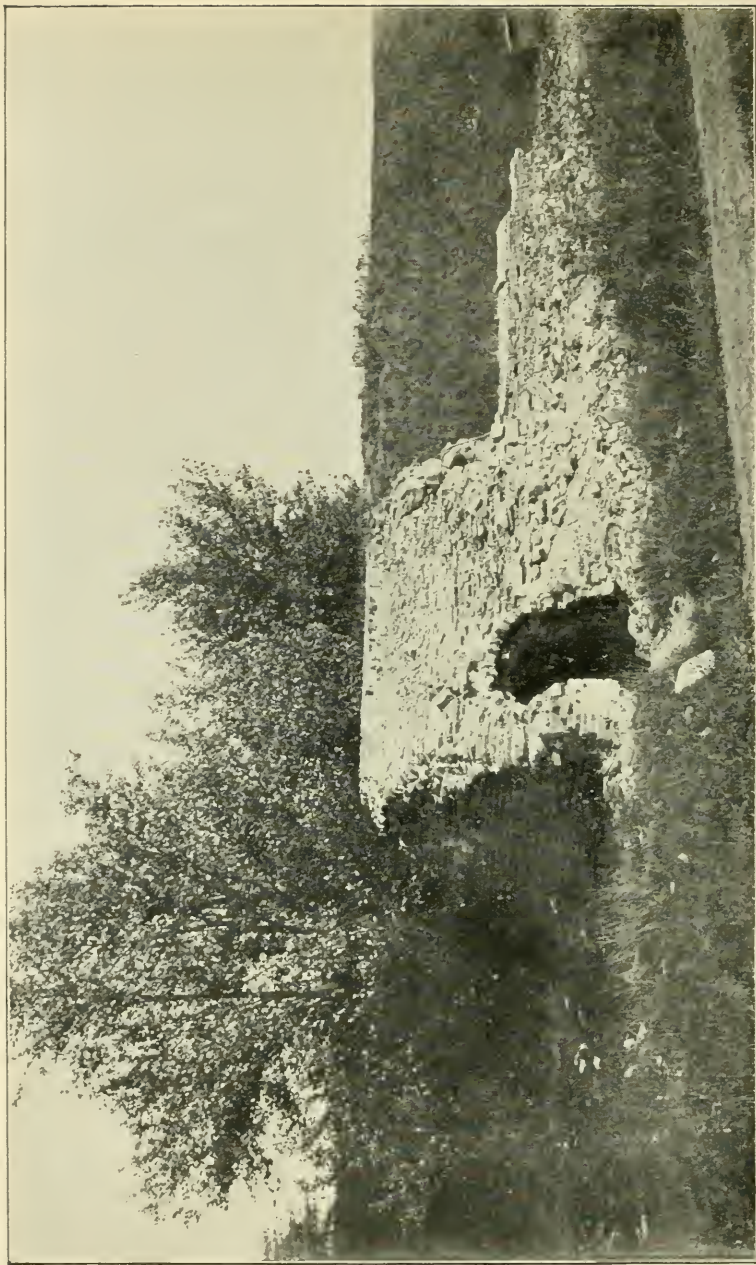
General Peter B. Porter, which, in the words of Sir Wm. Napier, "is the only instance in history of a besieging army being utterly routed in a single sortie," and which event ended the "War of 1812."

No other site of historical importance occurs on the river bank until we reach Navy Island. Though back of Fort Erie, some five miles, is the scene of the Battle of Ridgeway, fought between the Canadians and the Fenians in 1866.

Navy Island, containing 340 acres, belongs to Canada. It is the only island of any size that fell to her lot in determining the boundary line between the United States and Canada, which line runs through the deepest channel of the river. Navy Island is famed mainly as the headquarters of the patriots during the War of 1837.

On the main shore, just east of the village of Chippawa, are the large fields where, on July 5th, 1814, was fought the Battle of Chippawa. On both sides of the mouth of Chippawa Creek were located batteries during the War of 1812. On the western bank of this creek, from 1794 until after 1800, stood one of the ordinary pattern of blockhouses, built for the protection of the portage around the Falls on the Canada side, and dignified by the name of Fort Chippawa.

One mile west of the Falls on the highest point of land, on July 25th, 1814, was fought the famous battle of Lundy's Lane. Commenced late in the afternoon, this battle, largely a hand-to-hand conflict, was continued beneath the glorious light of a summer moon until long after midnight; while the ceaseless roar of Niagara thundered the dirge of the



RUINS OF OLD MAGAZINE, FORT GEORGE.

many that fell on both sides. The central point of the battlefield was a battery located on the hill where the village cemetery and a monument in honor of the British who fell in that battle now stand. This hill was captured by the Americans and held against repeated assaults, only, after the bloody victory had been gained by the Americans, to have General Brown, their commander, order the army back toward Chippawa, leaving the cannon, for whose capture so many lives had been lost, unspiked and alone on the hill, which early the next morning the British, without opposition, reoccupied. It is one of the most famous battles in history — remarkable that even now, nearly a hundred years afterwards, the Americans still claim the victory, and the Canadians, going still further, annually celebrate on the battlefield, with pomp and ceremony, a famous victory which in the opinion of their American cousins they did not win.

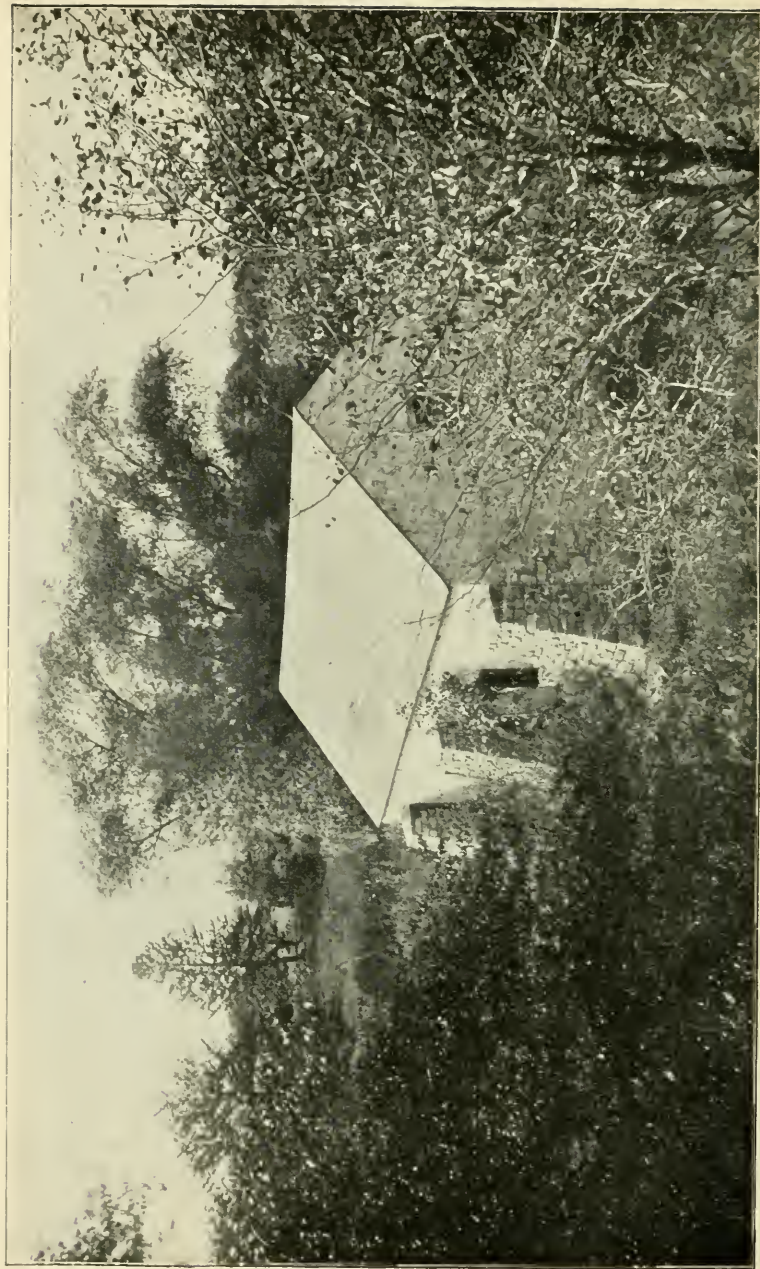
The village of Drummondville, one-half a mile west of the Falls, was named in honor of General Drummond of the War of 1812.

Queenstown Heights, where was fought the battle of October 12, 1812, is marked by the noble monument to General Brock. The remains of the earthworks of Fort Drummond are easily traceable.

A cenotaph at the foot of the heights marks the spot where General Brock fell, mortally wounded.

Queenston, a small village below the heights, was so called in honor of Queen Charlotte.

The village of Niagara, near the mouth of the river, called also, at various times, Newark and Butlers-

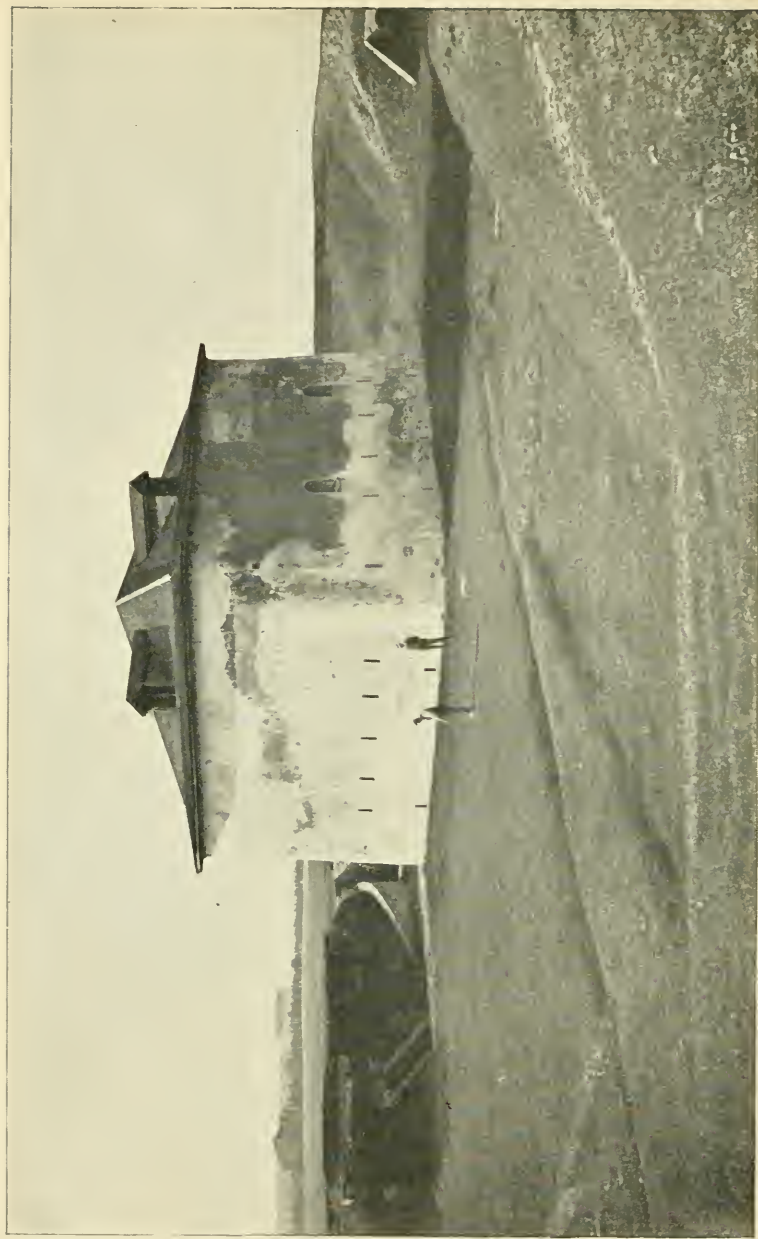


OLD MAGAZINE, FORT GEORGE, BUILT 1812.

bury, is older than any settlement on the eastern bank. In 1792 it became the residence of the Lieutenant-Governor of Canada, and here was held the first session of the Parliament of Upper Canada.

Fort George, whose vast earthworks are plainly discernible to-day, was commenced in 1796, to provide a habitation for the British garrison, which, soon after in that year, evacuated Fort Niagara under Jay's Treaty.

It was enlarged prior to the war of 1812, and doubled in size, in the immediate preparation of that war, and was, of course, the military center of the Canadian lower Niagara during that period. From here General Brock, who was in command, started to take part in the battle of Queenston Heights, and when he returned it was in his coffin, to be buried in the Cavalier Bastion of the Fort, from whence his remains were subsequently removed to their present tomb in Brock's monument. Here, in 1813, the Americans, attacking from the lake side, captured the village and the fort, which they held until December of that year, when General McClure, the American general, on a day's notice, without provocation, set fire to and burned the village, thus turning the inhabitants out into the cold. His destruction of the buildings in the fort and of the tents and other military stores (which he left unharmed) would have done far more good for the American cause and have left far less benefits for the advancing British than they found when they entered the fort. This act so aroused the British soldiery that it resulted in the retaliation and the utterly unnecessary attack and



FORT MISSISSAGA, BUILT 1814.

massacre at Fort Niagara and the burning of the Niagara frontier.

Fort Mississaga, a stone blockhouse, surrounded by high earthworks, stands to-day a perfect specimen of the early nineteenth century fort. It was built by the British in 1814, when they held control of Fort Niagara ; for without their occupation of that fort, being directly covered by the guns thereof, it could not have been built. Neither during the War of 1812 nor during any subsequent period has it played any important part. During the war of 1812 the water front for a mile up from the mouth of the river was a line of batteries.

Navy Hall, the residence of Governor Simcoe, the first Governor-General of Upper Canada, is still standing, a long, low, one-story wooden building (where, in 1792, met the first Parliament of Upper Canada), though not on its original site.

About a mile back from the river are still seen the wooden barracks occupied during the Revolution by that noted band of white, but savage, warriors known as "Butler's Rangers."

GEOLOGIC NIAGARA.

During the last seventy-five years geologists have written a great deal about Niagara, and from it speculatists have deduced theories as to the antiquity of the earth, trying to prove

“That He who made it, and revealed its date
To Moses, was mistaken in its age.”

In early geological days this entire section was covered by the salt waters of the Silurian seas, which is proved by the shells of the *Conularia Niagarensis*, found in the shale underlying Goat Island and along the gorge ; this shale having once been the muddy bottom of these seas, and this shell being found only in salt water.

At a later geological period, on top of what is now this shale, at the bottom of a warm ocean, still covering all this land, grew a vast, thick and solid bed of coral, of which ancient life the Niagara limestone of to-day is a monument.

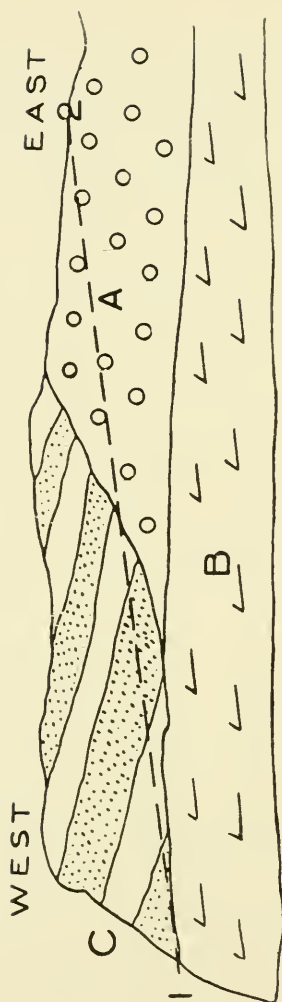
Subsequently, these two ancient and contiguous sea bottoms, then solid stone, were uplifted, and by the configuration of the earth hereabouts the original Niagara River was formed. In general terms its course was similar to that of the present river (though its volume was not as great) as far north as the Whirlpool, from whence it ran, in a broadening channel, to St. David's, westerly from its present outlet ; and prior

to the coming of the ice age it had cut this channel back to the Whirlpool and perhaps even farther south.

Next came the glacial period, when this part of the country was enveloped with a covering of ice (working down from the northeast) similar to that now covering Greenland, though having a depth of hundreds of feet. This ice age, as approximately determined, lasted 50,000 years, and closed about 200,000 years ago.

This ice sheet, as it moved forward and southward, broke off all the projecting points of rock, and scraped all the rocks themselves bare. Its presence and power are attested by the scratchings and markings on the smoothed surfaces of the top layer of rock wherever it is laid bare, as far south as the Ohio River, and is apparent on Goat Island and along the frontier. This ice sheet brought down in its course not only boulders from the far north and northeast, but its own vast accumulations and scrapings and ebrasions, which we call "drift," and with this drift it filled up (and with its enormous weight pressed compactly) all valleys, gorges and indentations of the earth in its course, among them the old outlet or bed of the Niagara River from St. David's to the Whirlpool.

The sectional view of Goat Island's rocky substrata shows what enormous grinding force must have been exerted on the top rock above the present western end of Goat Island (for, of course, there was no gorge west of the island then), so much of the limestone having been gouged out by the ice. In this excavated cavity drift was deposited by the ice. Many of the boulders brought here in the ice age, carried perhaps hundreds of miles, have been collected in this section and used



A. Upper thin bedded Niagara Limestone.

1, 2. Present Surface of Niagara River, at the Rapids.

B. Massive compact Niagara Limestone.

C. Alluvial drift and fresh water beds of Gravel, Sand and Loam, with Shells.

SIR CHARLES LYELL'S SECTIONAL VIEW OF GOAT ISLAND, 2,500 FEET LONG.

in the construction of the handsome stone bridges that have been built on the Reservation, on the main shore, opposite Goat Island.

On the recession of the ice sheet a second Niagara River came into existence.

The weight of this vast ice sheet had canted or tilted the land to the northeast, so that at its recession the waters of the present three great northern lakes flowed east by the Ottawa and later, as the land rose, by the Trent Valley. As this second Niagara River drained only the Lake Erie basin, and as Lake Erie was very much smaller than at present, it worked in a small channel, was of small volume, and had but small rock-cutting power to take up the erosive process of the earlier Niagara River, which had drained only this same Lake Erie basin.

This is the period, again referred to, when the present channel to the south and west of Goat Island (the Canadian channel) was made.

It should be noted that the land to the northeast is even yet rising, or slowly regaining its former level. This bears on our subject in that in time, in the upper lake region, the present slight slope to the southeast will be entirely overcome, and then the waters of the three great upper lakes will find their discharge to the westward, and the Niagara River will again drain only the Lake Erie basin, and, as a result, will enormously decrease in volume.

If when this time comes the two Falls shall have eaten their way back past Goat Island they will have left it an elevated and isolated island, or more probably a promontory, whose little forest will be perched

on a rocky base over 200 feet above the rapids below the Falls. The island itself will be narrower than at present on account of the action of the elements.

If, however, when that time shall come the American Fall shall not have receded far (and, judging from its recession during the last 200 years, it is improbable that it will have), its channel, by the great lessening of the flow of the river, will become dry, and Goat Island and the American channel between it and the main shore will become once more a part of the American mainland, and there will be but one small fall in the Canadian channel.

The second Niagara River gradually merged itself into a vast fresh-water lake, formed by the melting ice and heavy rainfalls, and covering all the Lake Erie basin, and gradually rose in level until it stood fully 100 feet above the present rocky bed of Goat Island.

Its northern boundary was the escarpment or ridge whose lowest point was just above the present village of Lewiston, which point is thirty-two feet above the present level of Lake Erie. Here the rising waters first broke over the dam, and here Niagara Falls were born.

From here they cut their way back to the Whirlpool, for the waters found it easier to cut a new channel back through the soft rock from this point in the embankment than to scour out the old drift-filled channel (which was at the very bottom of the lake) from the Whirlpool to St. David's.

The flow of the lake set towards the Falls and brought down from the Erie basin fluvial deposits in large amounts during the succeeding years, depositing them all along the bottom of the lake. It is of

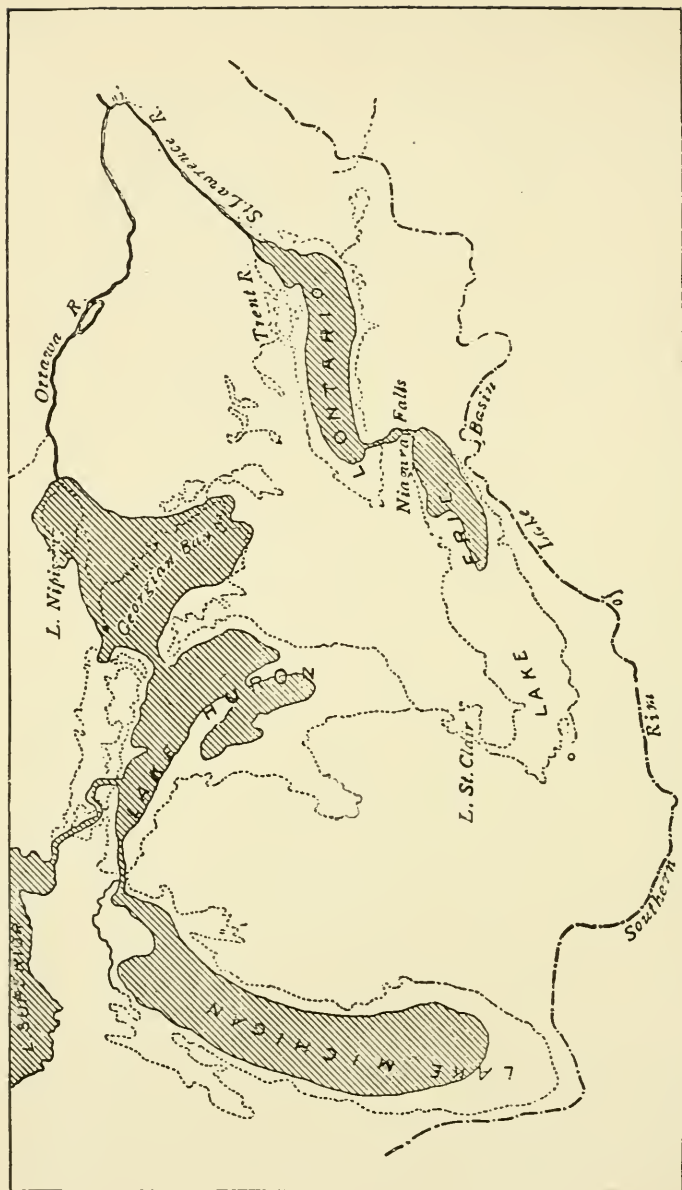
these fluvial deposits, consisting of sand and loam (excepting a comparatively small layer of drift next to the top rock), that the soil of Goat Island is formed, and that the soil covering the rocky substrata along the gorge is formed.

This Goat Island soil, more than any surface in this section, is the geologists' paradise. While some lands and forests near here may not have been cultivated by man, the western end of Goat Island is an absolutely unique piece of virgin forest.

Most of the time it has been, in general terms, inaccessible to man ; and since accessible by bridges, no cutting of the trees, no clearing of the land nor cultivation thereof, no pasturing of cattle, in fact, no disturbance of the soil, has been permitted.

Here, then, is the original drift, with the subsequent overlying alluvial deposits and accumulations, undisturbed by man. And when, as in this case, in this undisturbed fluvial deposit are found fresh-water shells, it proves that the Niagara River to-day flows through what was once the bottom of a vast fresh-water lake that covered all this section.

As the Falls cut their way backward, so their height gradually diminished, and the level of this fresh-water lake fell until, finally, there came a time when the land of what is now Goat Island rose above the waters. That this lake existed at a comparatively recent geological period is proven by the fact that these shells now found on Goat Island are identical in species with those found inhabiting the Niagara River and Lake Ontario to-day. According to the most accurate calculation, the consensus of geological



LAKE REGION AFTER THE MELTING OF THE GREAT GLACIER. MODERN LAKES IN
LIGHT BROKEN LINES. ANCIENT LAKES, SHADED.

opinion is that 35,000 years have elapsed since the Falls were at Lewiston, which is seven miles away ; and that the fluvial deposits on the island began as soon as the river rose over the moraine at the foot of Lake Erie can scarcely be doubted.

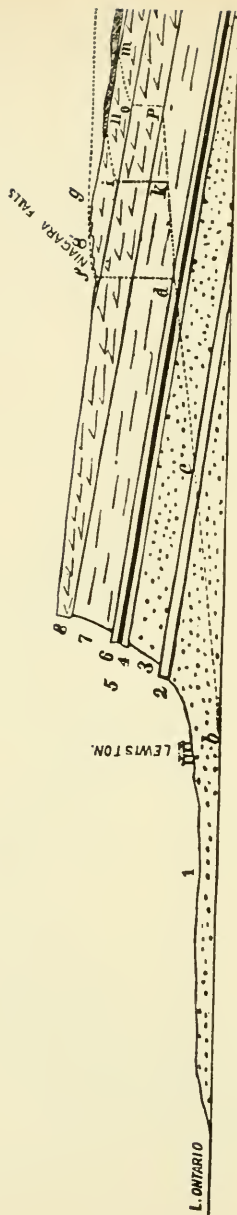
That in 35,000 years there is no specific difference between the ancient shells found in the soil of Goat Island and their existing representatives and progeny in this locality is wonderful indeed.

Sir Charles Lyell's sectional view of the rocky strata, as shown along the sides of the gorge, explains at a glance how and why the Falls have gradually diminished in height as they have cut their way back from Lewiston Heights, where they were at their greatest altitude. At present their height, 158 feet at the Horseshoe Fall, is the least that it has ever been in all the centuries of their existence.

During the next half mile in their recession, until they shall have reached the head of the rapids, their height will increase.

When they shall have reached the head of the rapids they will be about fifty feet higher than they are now, or over 200 feet in height, less whatever the upward slope of the bed of the river below the Fall may diminish that total, and it cannot be by many feet. The average dip of the rocky strata to the south is twenty-five feet to the mile, and the average slope of the river channel in the opposite direction is fifteen feet to the mile.

When the Falls shall have receded yet another half mile, or a total distance of one mile from their present location, by the wearing away of the strata, which



1. Red shaly sandstone and marl.

2. Grey quartzose sandstone.

3. Like No. 1, thin courses of sandstone near top.

4. Grey and mottled sandstone.

5. A thin mass of green shale.

6. Compact grey limestone. This and No. 5 constitute the Clinton Group here.

7. Soft argillo — calcareous shale, Niagara shale.

8. Niagara limestone, compact and geodiferous.

8'. Upper thin-bedded portions of the Niagara limestone.
b, c, d, f, g. Present surface of Niagara River.

d, f. Niagara Falls.

f, g. Rapids above the Falls.

e. The Whirlpool.

k, i, n. Position of Falls and Rapids after a recession of one mile.

p, o, m. Position of Falls and Rapids after a recession of two miles.

SIR CHARLES LYELL'S SECTION OF THE STRATA ALONG THE NIAGARA RIVER FROM LAKE ONTARIO TO PAST THE FALLS.

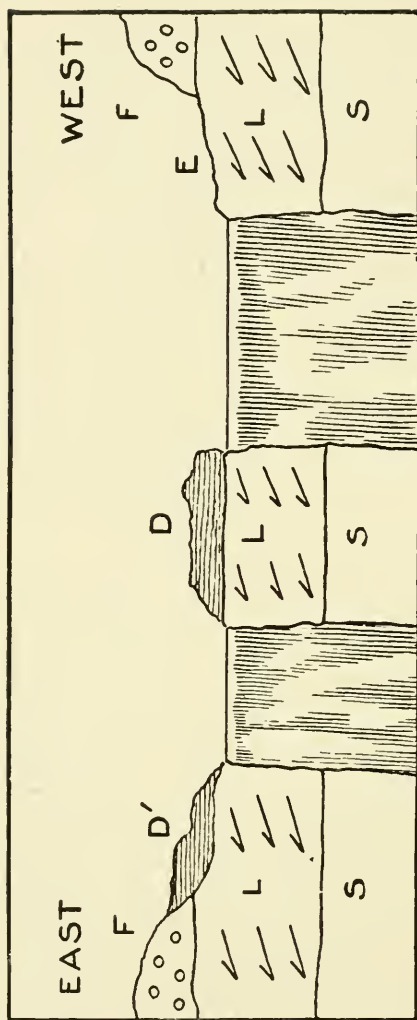
dips rapidly downward, and by the continued, but gradual, elevation of the bed of the river, and therefore of the surface of the water below them, they will have decreased in height to about 100 feet. And when they shall have receded still another mile, their height will be only about sixty feet. Still referring to Sir Charles Lyell's sectional views of the strata, I give his explanation of how, between Lewiston Heights and the Whirlpool, there were three falls.

The upper limestone and shale (8 and 7) having first been worn away, a second fall would in time be caused over the edge of the strata 6, 5, 4 and 3, and finally a third cascade sprang into existence over the edge of strata 2 and 1. Three falls, one above the other, similar in their geological and geographical position to those seen to-day on the Genesee River at Rochester, N. Y., would thus be formed.

The recession of the upper fall must have been gradually retarded, as it cut its way back, by the thickening of strata No. 8. Thus the second fall, which would not suffer the same retardation, might overtake it, and the two united would then be retarded by the large quantity of rock to be removed, until the lowest fall would come up to them, and then the whole would be united into one.

When they were about a mile south of Queenston Heights, the total altitude of the three falls must have been about 400 feet ; hence, in their recession of seven miles, the Falls have lost some 240 feet in height, an average of thirty-five feet to the mile.

As geologists differ by thousands of years as to how long it took the Falls to cut their way from Lewiston



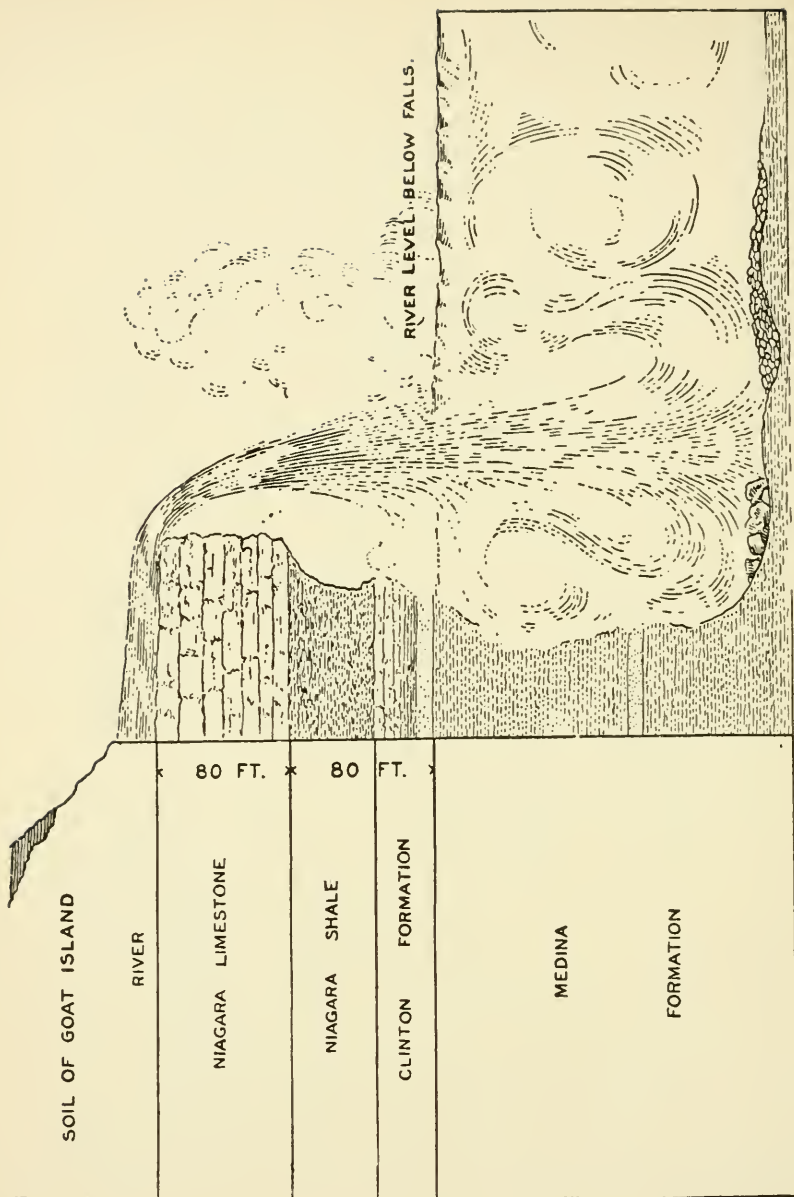
- L. Limestone, eighty feet thick. S. Shale, eighty feet thick.
 D. Fresh water Strata, Goat Island, twenty feet thick.
 D'. Same formation. American Shore.
 F. Ledge, bare Limestone, Canada Shore. F. Ancient Drift.

SIR CHARLES LYELL'S SECTION OF NIAGARA.

ridge to their present location it would be impossible to say when in the history of this section the waters had so far drained off that the muddy deposits overlying the rocky bed of what is now Goat Island first appeared above the slowly-receding waters of the lake, unless we adopt some length of time for this work as a basis.

But it is not so difficult, by noting the elevation of the land, the trend of the rocks and the depth of the overlying "drift," to locate approximately where the Falls were when this occurred. At that time, judging from the present levels of the land, the Falls must have been at a point nearly a mile north of the present location of the Horseshoe Fall. And if we accept, as above, one foot a year as a fair average estimate of the recession of Niagara from Lewiston Heights in the more recent geological time, it must have been between four and five thousand years ago that the soil of Goat Island, then a part of the mainland, first appeared; and probably it is nearly as long since it became an island.

In speaking of the recession of Niagara, I refer to the recession of the Horseshoe Fall, for it recedes several hundred times as fast as the American Fall; for in the time that the Horseshoe Fall has receded from Prospect Point, at the lower or northern edge of the American Fall, across the width of the American Fall and across the width of Goat Island to its present position, the American Fall has receded but a very few feet. Hence, on these deductions, Goat Island has existed as an island from about the time of the Flood, or from about 2,300 B. C.



PROF. SHALER'S SECTIONAL VIEW OF NIAGARA.

This proves the statement that "in a scientific sense the island is of trifling antiquity, in fact, it would be difficult to point out in the western world any considerable tract of land more recent in its origin."

As the Canadian Fall is lower in level than the American Fall, and as the main body of water and deepest channel appertain to this Canadian Fall, it is certain that the channel of the second Niagara River, which, of course, after the lake was drained off, was at the lowest level of this old lake bed, was practically identical with the Canadian channel of the river just above the Falls to-day ; that is, to the south and west of Goat Island.

Then Goat Island was a part of the American mainland, and the rocky bed of the river between the island and the shore, where to-day are the American Rapids, was also part of the mainland and covered with soil like that on Goat Island.

Then came a time, perhaps some hundreds of years afterwards, when, in the steady rising of the land at the northeast towards the elevation that it had before it was depressed by the ice, the outlet of the three upper lakes to the east was cut off ; and the waters, seeking a new outlet, found it by what is now the St. Clair River into Lake Erie.

By this means the volume of the Niagara River was suddenly and enormously increased. This permanently raised the level of the river, and part of this increased volume of water poured over the lowest point of the mainland near where Goat Island is to-day, this point being in the present channel of the American Rapids and along the American shore up-

stream; and this rush of waters cut and swept away the soil down to the rock, leaving and thus forming Goat Island.

Probably at the same time and in the same manner were cut off and formed the small islands that now lie on both sides of Goat Island, though they were at the first larger and, being joined together, fewer in number than at present.

Certainly, up to the time of the cutting of the channel of the American Fall, the river shore of what is now Goat Island extended very much farther upstream, and probably after the island itself was formed its upper end extended much farther eastward; for at its eastern end, now called "the parting of the waters," a sandy bar extends some hundreds of yards upstream. On this bar and south of it the depth of water is to-day less than three feet, and in the winter its whole length is covered with ice that lodges there. This entire bar was no doubt at one time covered with soil and was a part of Goat Island, the land being gradually washed away by the water, aided in its work by frost and ice.

One author says, "One of the early chronicles states that the island contained 250 acres of land," but I have been unable to find that chronicle.

Niagara has been called the "sun clock of the ages," and the stratification of the rocks through which it has cut its way may be studied at many points, especially at the "Whirlpool Rapids," above the Whirlpool, where both shores of the gorge are little covered with foliage, and again on the Goat Island cliff.

BOTANIC NIAGARA.

“The groves were God’s first temples.”

It is a difficult task to treat of the botany of any region within the space allotted to it in a guide of this nature ; and especially difficult to treat of it in a manner suitable to such a work, for this must be done in a superficial way and without employing many scientific terms.

For the study of its botany, the Niagara frontier may properly be divided into four sections. The first, from Lake Erie to the rapids above the Falls ; the second, the mile of territory beginning at the head of these rapids and extending to the bridge below the Falls ; the third, from this bridge down the gorge to Queenston Heights ; and the fourth, from these heights to Lake Ontario.

The botanic nature of the first section is largely that which one would expect to find along a river’s bank in this latitude, and under its existing conditions in reference to the Great Lakes. The second embraces a section almost unique in northern latitudes, by reason of the ever present moisture of the spray. The third section contains the remarkable gorge. While the fourth section differs from the first mainly in that it lies much lower, and, being more protected, is some weeks earlier in production.

No doubt all along the river many of the seeds which started the first foliage and forest, as well as

many succeeding species, were planted by the river (or by the vast lake that preceded it) at its inception and in subsequent decreasing levels, and this is specially true of Goat Island.

The botanist will, no doubt, find the most prolific field for study in section two, the one immediately adjacent to the Falls themselves ; and, next to that, in section three, where the base of the cliff and the slope below it, on both sides of the river, present unusual and remarkable features.

The late David F. Day of Buffalo, some few years ago, at the request of the Commissioners of the New York State Reservation at Niagara, prepared a list of the flora to be found on and near the Reservation.

Goat Island, in that report, naturally receives special mention. Of it he says :

“A calcareous soil enriched with an abundance of organic matter like that of Goat Island would necessarily be one of great fertility. For the growth and sustentation of a forest and of such plants as prefer the woods to the openings it would far excel the deep and exhaustless alluvians of the prairie States.

“It would be difficult to find within another territory so restricted in its limits so great a diversity of trees and shrubs and still more difficult to find in so small an area such examples of arboreal symmetry and perfection as the island has to exhibit.

“The island received its flora from the mainland ; in fact, the botanist is unable to point out a single instance of tree, shrub or herb now growing upon the island not also to be found upon the mainland. But the distinguishing characteristic of its flora is not the

possession of any plant elsewhere unknown, but the abundance of individuals and species which the island displays. There are to be found in Western New York about 170 species of trees and shrubs. Goat Island and the immediate vicinity of the river near the Falls can show of these no less than 140. There are represented on the island four maples, three species of thorn, two species of ash, and six species, distributed in five genera, of the cone-bearing family. The one species of basswood belonging to the vicinity is also there."

His catalogue of plants gives 909 species of plants to be found on the Reservation, of which 758 are native and 151 are foreign. These 909 species embrace 410 genera.

Again he says :

"The flora of Goat Island presents few plants which may be called uncommon in Western New York.

"For the rarer plants, other localities must be visited, but Goat Island is very rich in the number of its species.

"Its vernal beauty is attributable, not merely to its variety of plants, conspicuous in flower, but also to the extraordinary abundance in which they are produced. Yet it seems likely that there was a time, probably not long ago, when other species of plants of great beauty were common upon the island, but which are not now to be found there. It is hardly possible that several orchidaceous plants and our three native lilies did not once embellish its woods and grassy places. Within a little while the harebell has gone and the grass of Parnassus is fast going.

This is undoubtedly due to careless flower gatherers, who have plucked and pulled without stint or reason. The same fate awaits others that do so much to beautify the island, unless the wholesale spoliation is soon arrested."

He then suggests that pains be taken to reëstablish on the island the attractive plants which it has lost, stating that the success of the effort would be entirely certain and thereby the pleasure of a visit to the island would be greatly enhanced to many visitors. And he rightly adds: "It would surely be a step, and not an unimportant one, in restoring the island to the state in which nature left it."

Sir Joseph Hooker, the noted English botanist, has said that he found on Goat Island a greater variety of vegetation within a given space than he had found elsewhere in Europe or east of the Sierras in America; and Dr. Asa Gray, the greatest of American botanists, confirms that statement.

Some of the rarest plants of Western New York and Ontario grow in the neighborhood of the Niagara River, but not within the boundaries of either the New York State Reservation or the Queen Victoria Park.

In section four, although Queenston Heights, which are its commencement, present a northerly exposure, among the plants growing upon the talus and on the plain below, are a number which belong rather to the south and southwest, and are much more abundant in Ohio than in Western New York. This may be explained by the fact that the annual temperature here and northward to Lake Ontario is higher than

that prevailing at the Falls and immediately south of them.

In the woods, on the high bank just east of the Whirlpool, around DeVeaux College, are to be found several species not found at the Falls. Queenston Heights furnish some species scarcely seen elsewhere in this vicinity.

Spring seems to visit Foster's Flats, lying below the high western bank of the gorge, some weeks earlier than it does the table-land above, and these flats produce several rare plants.

The Devil's Hole was once a paradise of ferns, and the plateau of rock which overlooks the ravine at this point produces some specimens uncommon elsewhere in this region. Between the mountain and the village of Lewiston are to be found plants that are rare in Western New York.

The low land near Clifton, on the Canada Shore, and the woods near the Whirlpool on the same side of the river, produce plants uncommon, if not unique, in this locality.

Frederick Law Olmstead wrote : " I have followed the Appalachian Chain almost from end to end, and traveled on horseback, 'in search of the picturesque,' over 4,000 miles of the most promising parts of the continent without finding elsewhere the same quality of forest beauty which was once abundant about the Falls, and which is still to be observed on those parts of Goat Island where the original growth of trees and shrubs has not been disturbed, and where from caving banks trees are not now exposed to excessive dryness at the root.

"All these distinctive qualities, the great variety of the indigenous perennials and annuals, the rare beauty of the old woods, and the exceeding loveliness of the rock foliage I believe to be a direct effect of the Falls, and as much a part of its majesty as the mist cloud and the rainbow. They are all, as it appears to me, to be explained by the circumstance that at two periods of the year, when the Northern American forest elsewhere is liable to suffer actual constitutional depression, that of Niagara is assured against ills, and thus retains youthful luxuriance to an unusual age.

"First, the masses of ice which every winter are piled to a great height below the Falls and the great rushing body of ice-cold water coming from the northern lakes in the spring, prevent at Niagara the hardship under which trees elsewhere often suffer through sudden checks to premature growth. And, second, when droughts elsewhere occur, as they do every few years, of such severity that trees in full foliage droop and dwindle, and even sometimes cast their leaves, the atmosphere at Niagara is more or less moistened by the constantly evaporating spray of the Falls, and in certain situations bathed by drifting clouds of spray."

For the enthusiastic botanist, the Niagara Frontier is a glorious playground, where study and recreation go hand in hand.

HYDRAULIC AND ELECTRIC NIAGARA.

We must treat of these two subjects practically as one, for while Niagara has been recognized for years as a power-producing locality, and while the water power of the rapids had been utilized to a small extent as early as 1750, by the French in the erection of mills on the American shore ; and while DeWitt Clinton, in 1810, makes reference to the possibilities of power here, it was not until 1853 that the first development thereof on a large scale was undertaken, and not until 1890 that operations on the great tunnel, which was to convert water power into electricity on the grandest scale on earth, were actually commenced. The State of Massachusetts, about 1788, when practically all of Western New York was sold to Phelps and Gorham, had reserved what is known as the mile strip ; that is, a strip of land one mile in width along the river bank from Lake Erie to Lake Ontario. This mile strip was offered for sale by the State of New York, then its owner, about 1806, and in the surveyor-general's field notes regarding the lots immediately adjacent to the Great Fall, he noted their value for water power, and the purchasers of these lots bore this especially in mind in selecting and securing this very land ; and though, in 1825, the owners of these lots in a printed circular called attention to and invited the enlistment of

capital for the development of the power, it was not until sixty years later that a number of men, among them the descendants of the very men who issued the circular, developed a plan, formulated by Thomas Evershed of Rochester, for the production of water power here on a vast scale, which has since been carried to such a wonderfully successful conclusion by the capitalists who formed the Niagara Falls Power Company.

In 1853 the first attempt on a large scale to develop Niagara power was formed by a company of Boston capitalists ; the company later, and soon after, was reorganized, the necessary land was acquired, and in spite of many difficulties the first hydraulic canal (which is still in operation) was constructed. This corporation, The Niagara Falls Hydraulic Power and Manufacturing Company, has largely increased the development of its power, and has been the means of building up not only its own enterprises, but those of other capitalists that now derive the power from this company, which to-day is producing in the neighborhood of 15,000 horse power, and has great possibilities for the enormous increase of even this production.

This canal is a surface canal, starting about three-quarters of a mile above the American Fall, and conducting the water on the surface to a point a quarter of a mile below the American Fall, where the overflow is into the gorge, which at this point is some 200 feet lower in level. Not only is this power thus used by a number of manufacturers located along the basin at the outlet of the canal and situated on the edge of

the bluff, but, by a secondary use of the water after it has passed out from the wheels at the bottom of the first head, is made to do twofold duty by furnishing the power to a second wheel. In some cases these secondary wheels are located in excavations in the face of the gorge itself, and in others are utilized under this high head on wheels situated under buildings erected close to the water's edge below.

In 1885 was formed the project of the so-called tunnel. At first it was designed to have the outlet of the tunnel located under the base of Goat Island, and the tunnel itself was to extend upstream under the said island and under the bed of the river for over a mile. The factories which were to be located on the present site of the upper manufacturing district were to be connected with this main tunnel by lateral tunnels. The initial steps for the establishment of the State Reservation at Niagara, taken in 1879, precluded the possibility of adopting this route and compelled its projectors to change the line of the tunnel to its present location, which is directly under the City of Niagara Falls.

As first projected, there were to be twelve surface canals extending from the river a long distance inland and beyond the line of the tunnel. Beneath these surface canals were to be twenty-four lateral tunnels, twelve sloping respectively from either side toward the main tunnel. Further investigation proved this to be too expensive a method and requiring too much rock cutting, and the project was so modified that instead of having twelve canals capable of carrying enough water (for this vast tunnel is simply a tail race

that carries away the water after it has developed the power on the wheels) to develop 120,000 horse power through twenty-four lateral tunnels each delivering the waste water from 5,000 horse power into the main tunnel, it was suggested that three V-shaped canals be excavated, each capable of furnishing water for 40,000 horse power, and which were to be connected with the tunnel by three penstocks.

The capitalists who were engaged in developing this vast enterprise still felt that, for the protection of the stockholders, it was necessary that they should secure the best and latest ideas in all the world, so that they might not in the future be confronted with the fact that at the time they were expending all these millions there existed, somewhere, engineering talent capable of benefiting the scheme, and which they had not secured. So they formed an International Commission, composed of one representative each from England, France, Switzerland, Germany and the United States, with headquarters in London, to whom was to be submitted the plans of all engineers who cared to compete not only in the hydraulic development, but in the production of the wheels, penstocks and various designs in connection with the great project; and during a period of six months the Power Company agreed to pay the expenses of a representative of any firm to Niagara and return from any part of the world, only stipulating that some design must be submitted.

The result of this commission, of which Sir William Thompson, better known as Lord Kelvin, was president, was a decision, in the interest of economy,

to abandon the three surface canals of 40,000 horse power, and to substitute one canal capable of furnishing water to the full capacity of the tunnel, namely, 120,000 horse power. This idea was adopted and the canal has been so constructed.

The tunnel itself is 7,200 feet long, and is a brick-lined passage twenty-nine feet in height, eighteen feet in breadth, egg shaped, and in its construction twenty million bricks were used for the lining.

The power house of this company is a vast granite building, 425 feet long by 60 feet wide, wherein are now produced 50,000 horse power by ten dynamos of 5,000 horse power each. These dynamos are fitted to the top of the shafts, which extend down into the pit 130 feet, and there connect directly with the wheels, which by a Swiss invention are not at the bottom of the penstock direct, but alongside of them; for these penstocks, each carrying a column of water six feet in diameter and 140 feet high, and capable of producing a continuous 5,000 horse power, turn upwards at their lower end, so that the weight of this column of water by its uplifting force reduces the weight of, and, therefore, the friction of, the wheel.

On the other side of the canal is now in process of construction a second pit and the erection of a second power house capable of producing, by a like means, 50,000 horse power more. As the tunnel and the canal were built in their entirety, it is only necessary to connect this new pit with the main tunnel by a short additional piece of tunnel.

When this tunnel was projected electricity was in its infancy, and it is worthy of note that the first pros-

pectus issued by the incorporators of this company referred to the possibilities of electrical uses of this power in about three lines. Hydraulic or water power was its avowed object. As the years went by, and as electrical science increased and developed, the water-power feature of the Tunnel Company has been almost entirely eliminated, so far as furnishing hydraulic power to manufacturers is concerned ; and in its stead to-day almost the entire capacity of the tunnel now in use, and the entire capacity of the present and also of the projected power house, is devoted to the transformation of the water power into electrical units.

From this power house are delivered to all the factories which have been brought to its domain, electrical power for the various processes. From it is lighted the City of Niagara Falls and a large portion of the City of Buffalo. Here is generated the power that runs all the trolley lines in the City of Buffalo, the line twenty-two miles long between Buffalo and Niagara Falls, and the line of the same length between Buffalo and the City of Lockport ; and many of the manufactories in various branches of commerce in Buffalo have adopted this new Niagara power in place of the steam power of former years. Power is also developed and delivered for the Gorge Railroad, and for the trolley line to Fort Niagara, from the Hydraulic Canal Company's plant. It is this wonderful transmission of a small portion of the enormous water power of Niagara turned into electricity that is now developing this section in such a wonderful way. What the limits in distance of the transmission of electricity at a commercial profit will be no one now dares to say, and perhaps

the guide book of twenty years hence may ridicule the fact that at the opening of the twentieth century, Niagara, the power house of North America, was limited in the distance it was sending its power by a score of miles ; for what has been done on a small scale will no doubt be done on a very much larger one, and it is but five years ago, by means of the telephone wire, the roar of Niagara, caught in a huge receiver placed at the base of the Cave of the Winds Fall, was nightly for a period of thirty days transmitted to and heard by thousands of people in the City of New York. It is a probability that the advance in electrical science will enable cities, even as far from Niagara as New York, in the course of a comparatively few years, to receive their manufacturing and lighting power from the energy of the Great Cataract.

NIAGARA IN LITERATURE.

"All the descriptions you may read of Niagara can only produce in your mind the faint glimmer of the glowworm compared with the overpowering beauty and glory of the meridian sun," truthfully wrote J. J. Audubon.

EARLIEST REFERENCES.

The first reference to Niagara in literature (that of France) antedated its first portrayal in art (also French) by over four score and ten years. In 1603, Samuel de Champlain, the first Governor-General of New France, and the most picturesque figure in all Canadian history, in his "Des Sauvages" says: "At the end of this lake (meaning Ontario) they pass a fall, somewhat high and with but little water flowing over." Champlain, who never saw Niagara, heard this from the Indians on the coast.

In his 1613 map, Champlain locates the Falls quite accurately, and in his 1632 map they are located and referred to in a note as a "waterfall, very high, where many kinds of fish are stunned in the descent."

In 1648, Father Rageneau, in the "Jesuit Relations," speaks of "Lake Erie, which discharges itself into a third lake, called Ontario, over a cataract of fearful height."

In 1669, Father Gallinee, in his journal, tells of being at the mouth of the Niagara River, which "has

from ten to twelve leagues above its embouchure into Lake Ontario one of the finest falls of water in the world, for all the Indians of whom I have enquired about it say that the river falls at that place from a rock higher than the tallest pines, that is, about 300 feet. In fact, we heard it from where we were."

There is but one way to tell of Niagara in literature, both prose and poetry, and that is to quote from the productions of the master minds who have tried to describe it or who have recorded their impressions of it, and in every case these quotations must be brief.

DESCRIPTIVE PROSE.

Father Hennepin, who gave the first real description of Niagara, was also the first to use that spelling of the name. He saw them in 1678, and in his "Louisiana," 1683, describes them, which description he amplified in his "New Discovery," 1697, in these words: "Betwixt the lakes Ontario and Erie there is a vast and prodigious cadence of water which falls down after a surprising and astonishing manner, insomuch that the universe does not afford its parallel," which is as true to-day as it was over two centuries ago. He, however, gave the height of the Falls as 600 feet, and said he discovered "a spot of ground (under Table Rock) which lay under the fall of water, which is to the east (the third fall which flowed over Table Rock), big enough for four coaches to drive abreast without being wet."

I have already in the scenic section quoted expressions by J. B. Orton, Anthony Trollope, Charles Dudley

Warner, the Duke of Argyle, Margaret Fuller Ossoli, David Gray, George William Curtis, Charles Mackay, Rev. F. A. P. Greenwood, William Russell, L. W. Mansfield, and Captain Basil Hall—a noble company in themselves. Let me add the prose expressions of some others.

An unnamed author wrote : “One might almost fancy that Niagara was designedly placed by the Creator in the temperate zone, that it might not always wear the same livery of loveliness, but that the peculiar excellencies of each of the three great regions of the earth might, in turn, enrich, beautify and adorn this favorite and glorious work of His power. That in summer it might have the warmth and luxuriance of the tropics ; in autumn, the vivid hues and varying dyes of the middle regions ; and in winter, the icy splendor and starry lustre of the frozen zone. All that is rich, all that is striking, all that is gorgeous in nature, thus centers here in one holy spot, beautifying sublimity, adorning immensity, and making the awful attractive. Men come from all ends of the earth to see Niagara, and well they may.”

Where the waters pitch all is agitation and foam ! Beyond they spread themselves like a rippling sea of liquid alabaster. The last feature is perfectly unique, and you would think nothing could add to its loveliness ; but there lies on it, as if made for each other, “heaven’s own bow of promise.” The world knows nothing like these Falls. It is better to see Niagara than a thousand ordinary sights. They may revive sleeping emotions, but this creates new emotion,

and raises the mind a step higher in its conception of the power and eternity of God.—*Rev. Andrew Reed.*

Niagara is not simply the crowning glory of New York State, but it is the highest distinction of the nation and of the continent of America. No other like gift of Nature equally holds the interest of the world, or operates as an inducement for men to cross the sea.—*Commissioners' Report on the Preservation of the Scenery of Niagara, 1880.*

It is the combined appeal to every sense and every faculty, exalting the soul into a higher sphere of contemplation which distinguishes this spot above all others in this world. Niagara is an awful symbol of Infinite power — a vision of Infinite beauty — a shrine, a temple erected by the hand of the Almighty for all the children of men.—*James C. Carter; Oration at Free Niagara, July 15, 1885.*

The days when one's eyes rest on Niagara are epochs in the life of any man. He gazes on a scene of sublimity and splendor far greater than the unaided fancy of poet or painter ever pictured. He receives impressions which time cannot diminish and death alone efface.—*Major Thomas Hamilton.*

What a wonderful thing water can become! One feels, in looking at Niagara, as if one had never seen that element before. Perhaps the most peculiar and transcendent attitude of this matchless cataract is its almost endless variety.—*Lady Stuart Wortley.*

The beauty of Niagara seems to me more impressive than its grandeur. One's imagination may heap up almost any degree of grandeur, but the subtle col-

oring of this scene—the Horseshoe Fall—refining upon the softness of driven snow, and dimming all the gems of the mind is wholly inconceivable.—*Harriet Martineau.*

Beauty is not absent from the Horseshoe Fall, but majesty is its chief attribute. The plunge of the water is not wild, but deliberate, vast and fascinating.—*Professor Tyndall.*

There is one thing about Niagara that impresses. It can have no rival. Its deep, thundering voice of power will be heard in its solemn intensity. The ceaseless sermon of its majesty—the omnipotence of God—will be preached while the waters flow.—*L. W. Mansfield.*

The great Fall faces you, enshrined in the surging incense of its own resounding mists. Already you see the world-famous green, baffling painter, baffling poets, clear and lucid on the lip of the precipice, the more so, of course, for the clouds of silver and snow into which it drops. A green more gorgeously cool and pure it is impossible to conceive. You can fancy it is the parent green; the head spring of color to all the verdant water caves, and all the clear haunts and bowers of naiads and mermen in all the streams of earth. The river drifts along, with measured pride, deep and lucid, yet of immense body—the most stately of torrents. Its movement, its sweep, its progression are as admirable as its color, but as little as its color to be made a matter of words. These things are but part of a spectacle in which nothing is imperfect. You stand steeped in long looks at the most beautiful object in the world.—*Henry James.*

While within the sound of its waters, I will not say that you become part and parcel of the cataract, but you will find it difficult to think, speak or dream of anything else. I am Niagara-mad.—*C. J. Latrobe.*

We were less struck with the grandeur of this cataract than with its sublime softness and gentleness. We felt ourselves attracted by the surpassing loveliness of Niagara. The gulf below was more imposing than we had expected to see it, but it was Italian in hue and softness, amid its wildness and grandeur. Not a drop of the water that fell down the precipice inspired terror ; for everything appeared to us to be filled with attraction and love.—*James Fenimore Cooper.*

As I stood on the brink of the Fall, I could not help wishing that I could have been so made that I might have joined it in its flow, with it to have rushed harmlessly down the precipice, to have rolled uninjured into the deep unfathomable gulf below, and to have risen again with the spray to the skies. For about an hour I continued to watch the rolling water, and then I felt a slight dizziness and a creeping sensation come over me, the sensation arising from strong excitement, and the same probably which occasions the bird to fall into the jaws of the snake. This is the feeling which if too long indulged in becomes irresistible, and occasions a craving desire to leap into the flood of rushing waters.—*Captain Marryat.*

The first emotion on viewing Niagara is that of familiarity. Ever after its strangeness increases. The surprise is none the less a surprise because it is kept until the last, and the marvel, making itself felt in every nerve, all the more fully possesses you. It is

as if Niagara reserved her magnificence and preferred to win your heart with its beauty.—*W. D. Howells.*

One feels thoroughly alone when overhanging that thundering mass of waters with the silent moon treading her tranquil way. I thought of soul, and this mighty fall seemed as a drop to the cataract of mind which had been rushing from the bosom of the Eternal from age to age ; now covered with mists of sorrow, now glittering in the sunlight of joy, now softened by the moonlight of tender memories, now falling into the abysses of death, but all destined — I trust in God — to flow in many a happy river around His throne.—*Caroline Gilman.*

It was not until I came on Table Rock and looked — Great Heaven ! — what a fall of bright green water ! — that the vastness of the scene came upon me in its full majesty and might. Then when I felt how near to my Creator I was standing, the first effect, and the enduring one — instant and lasting — was peace. Peace of mind, calm tranquility, calm recollections of the dead, great thoughts of eternal rest and happiness — nothing of gloom or terror. Niagara was at once stamped upon my heart, an image of beauty to remain there, changeless and indelible, until its pulses ceased to beat forever. I think in every quiet season now, still do those waters roll and leap and roar and tumble all day long ; still are the rainbows spanning them a hundred feet below. Still, when the sun is on them do they shine and glow like molten gold. Still, when the day is gloomy, do they fall like snow or seem to crumble away like the front of a great chalk cliff, or roll down the rocks like

dense white smoke. But always does the mighty stream appear to die as it comes down, and always from its unfathomable grave arises that tremendous ghost of spray and mist which is never laid ; which has haunted this place with the same dread solemnity since Darkness brooded on the deep, and that first flood before the deluge — Light — came rushing on Creation at the word of God.—*Charles Dickens.*

And lastly, in antithesis, let me quote the confession of John Galt, who at the commencement of his autobiography tells how, as a child, he was entranced at seeing a picture of Niagara. Years afterwards he went there, presumably and solely on purpose to see the Falls, and then — but let him tell in his own words what sort of a man he was :

It was sunset when we reached Manchester, and as the fire in the hotel was very inviting, my disposition did not incline, at the time, to go abroad. So I sent my servant to look at the Falls with orders to come back and tell me what they were like, and if it were worth while to go and look at them. No doubt the lad's downright character had some influence in making me give this ludicrous order, but his answer when he returned was beyond expectation : " It is a very cold night," said he, " and there is nothing to be seen but a great tumbling of waters," advising me at the same time not to go abroad that night.

Thus it came to pass that, although within a hundred yards of the Falls of Niagara, I was induced not to visit them, nor did I during my first visit to America.—*John Galt, Autobiography.*

That the man could be such a fool seems strange, but that he should deliberately record his own stupidity is almost incomprehensible. In including him in this particular section, he is placed in noble company ;

but, in order to emphasize the fact that he is admitted only by contrast, the quotation from his work is set in smaller type. Were it set in a type of a size suitable to express the inevitable contrast, it would be unreadable, in fact, it would be invisible.

POETRY.

“What poets have shed
From countless quills
Niagaras of ink.”

The first reference to Niagara in poetry is exactly coincident with its first reference in literature.

Champlain, in his “Des Sauvages” (Paris, 1603), embodies a sonnet by “Le Sieur de la Franchise.” As it is written to Champlain, the author no doubt derived his knowledge of the Falls directly from him. La Franchise refers to “les saults Mocossans.” Mocosa being the ancient name of Virginia, all commentators seem to agree that this reference can be only to Niagara.

Let me begin with the statement that no poet of the first rank, of any nation, has ever written a great poem on Niagara.

Tom Moore visited it and touched on it in some of his minor poems. It is currently believed that the following well-known lines of his were written on the banks of the lower Niagara, while on a visit to Newark :

I knew, by the smoke that so gracefully curl'd
Above the green elms, that a cottage was near ;
And I said, “ If there's peace to be found in the world,
A heart that was humble might hope for it here.”

It was noon, and on flowers that languished around
In silence reposed the voluptuous bee ;
Every leaf was at rest, and I heard not a sound
But the woodpecker tapping the hollow beech tree.

And "Here, in this lone little wood," I exclaim'd,
"With a maid that was lovely to soul and to eye,
Who would blush when I praised her, and weep if I
blamed,
How blessed I could live, and how calm I could die !

"By the shade of yon sumach, whose red berry dips
In the gush of the fountain, how sweet to recline,
And to know that I sigh'd upon innocent lips,
Which had never been sigh'd on by any but mine !"

Although these lines were written long before
Niagara became a Mecca for brides and grooms, the
vicinity of the cataract was even then conducive to
thoughts of love.

Byron's famous description of Velino may properly
be applied to Niagara :

"A matchless Cataract
Horribly beautiful ! but on the verge,
From side to side, beneath the glittering morn
An Iris sits, amidst the infernal surge
Like hope upon a deathbed, and unworn
Its steady dyes, while all around is torn
By the distracted waters, bears serene
Its brilliant hues, with all their beams unshorn,
Resembling, midst the torture of the scene,
Love watching madness with unalterable mien."

Goldsmith, in his "Traveler," dowered it with the
single line —

"And Niagara stuns with thundering sound."

The sentimental Mrs. Lydia M. Sigourney wrote at least four poems on it. The "Apostrophe," written on Table Rock, and her "Niagara," being the best known. I give a quotation from each :

"Up to the Table Rock, where the great flood
Reveals its fullest glory. To the verge
Of its appalling battlements draw near,
And gaze below, or, if thy spirit fail,
Creep stealthily and snatch a trembling glance
Into the dread abyss.

What there thou seest
Shall dwell forever in thy secret soul,
Finding no form of language.

. For 'tis meet
That even the mightiest of our race should stand
Mute in thy presence, and, with child-like awe,
Disrobed of self, adore his God through thee."

And —

"Flow on forever in thy glorious robe
Of terror and of beauty ! God hath set
His rainbow on thy forehead, and the cloud
Mantles around thy feet, and He doth give
The voice of thunder power to speak of Him
Eternally — bidding the lip of man
Keep silence, and upon thy rocky altar pour
Incense of awe-stricken praise."

John G. C. Brainard, then editor of a Connecticut newspaper, in response to a call for copy, wrote, at a single sitting, what has been called "The best poem ever written on Niagara":

"The thoughts are strange that crowd into my brain
While I look upward to thee. It would seem
As if God pour'd thee from His hollow hand,

And hung His bow upon thine awful front,
And spoke in that loud voice which seem'd to him
Who dwelt in Patmos for his Saviour's sake,
The sound of many waters, and had bade
Thy flood to chronicle the ages back
And notch His centuries in the eternal rocks.

“Deep calleth unto Deep, and what are we
That hear the question of the voice sublime?
Oh! What are all the notes that ever rung
From War's vain trumpet by thy thundering side!
Yea, what is all the riot man can make
In his short life to thy unceasing roar!
And yet, bold babbler, what art thou to Him
Who drown'd a world and heaped the waters far
Above its loftiest mountains?—a light wave
That breaks and whispers of its Maker's might.”

B. Frank Palmer's "Apostrophe to Niagara," a typical apostrophe of devotional verse, has been characterized "as having the music of Niagara in it," and is reproduced in full:

This is Jehovah's fullest organ strain!

I hear the liquid music, rolling, breaking,
From the gigantic pipes the great refrain
Bursts on my ravished ear, high thoughts awaking!

The low sub-bass, uprising from the deep
Swells the great pæan as it rolls supernal—
Anon, I hear, at one majestic sweep
The diapason of the keys eternal.

Standing beneath Niagara's angry flood—
The thundering cataract above me bounding—
I hear the echo: "Man, there is a God!"
From the great arches of the gorge resounding.

Behold, O man, nor shrink aghast in fear !

Survey the vortex boiling deep before thee !
The Hand that ope'd the liquid gateway here

Hath set the beauteous bow of promise o'er thee !

Here, in the hollow of that Mighty Hand,
Which holds the basin of the tidal ocean,
Let not the jarring of the spray-washed strand
Disturb the orisons of pure devotion.

Roll on, Niagara ! Great River King !

Beneath thy sceptre all earth's rulers, mortal,
Bow reverently ; and bards shall ever sing
The matchless grandeur of thy peerless portal !

I hear, Niagara, in this grand strain

His voice, who speaks in flood, in flame, and thunder—
Forever, mayst thou, singing, roll and reign—
Earth's grand, sublime, supreme, supernal wonder.

The author wrote it on Table Rock.

Frederika Bremer wrote a brief poem on Niagara.
The translation of a portion of it is :

Niagara is the betrothal of Earth's life
With the Heavenly life.
That has Niagara told me to-day.
And now I can leave Niagara. She has
Told me her word of primeval being.

One of the best poems on Niagara is that by Maria
José Heródozia, translated from the Spanish by
William Cullen Bryant :

Tremendous Torrent, for an instant hush
The terrors of thy voice, and cast aside
Those wide involving shadows ; that mine eyes
May see the fearful beauty of thy face.

*

*

*

The hoarse and rapid whirlpool's there ! My brain
Grows wild, my senses wander, as I gaze
Upon the hurrying waters ; and my sight
Vainly would follow, as toward the verge
Sweeps the wide torrent ; waves innumerable
Meet there and madden ; waves innumerable
Urge on and overtake the waves before,
And disappear in thunder and in foam.

And the following, credited to Miss Hancock, whose
nom de plume was Jennie Frye, deserves a place in
full :

Great Fall, all hail :
Canst thou unveil
The secrets of thy birth ;
Unfold the page
Of each dark age,
And tell the tales of earth ?

When I was born
The stars of morn
Together sang — 'twas day :
The sun unrolled
His garb of gold
And took his upward way.

He mounted high
The eastern sky
And then looked down on earth ;
And she was there,
Young, fresh, and fair,
And I, and all, had birth.

The word of power
Was spoke that hour :
Dark chaos felt the shock ;
Forth sprung the light,
Burst day from night,
Up leaped the living rock.

Back fell the sea
The land was free,
And mountain, hill and plain
Stood forth to view,
In emerald hue,—
Then sang the stars amain.

And I — oh Thou :
Who taught me how
To hymn thy wondrous love,
Deign to be near
And calm my fear,
O Holy One above.

I caught the word,
Creation heard,
And by Thy power arose ;
His goodness gave
The swelling wave
That ever onward flows.

By His command
The rainbow spanned
My forehead, and His will
Evoked the cloud
My feet to shroud,
And taught my voice to trill.

And who is he
That questions me ?
From whom hast thou thy form,
Thy life, thy soul ?
My waters roll
Through day, night, sunshine, storm.

In grateful praise
To Him I raise
A never ceasing song ;
To that dread One,
To whom stars, sun,
Earth, ocean, all belong.

Thou, too, adore
Him evermore
Who gave thou all thou hast ;
Let time gone by
In darkness die,
Deep buried in the past.

And be thy mind
To Him inclined
Who made earth, heaven and thee —
Thy every thought
To worship wrought,—
This lesson learn of me.

Others who have written beautiful verse on Niagara are : In English, Rev. C. H. Buckley (the longest poem on the subject), J. Rodman Drake, Thos. Grinfield, A. S. Ridgeley, R. W. Gilder (the shortest and one of the best), George Houghton, Lord Morpeth, J. S. Buckingham, Willis G. Clark, William Ellery Channing, and "a member of the Ohio Bar," an unsigned but beautiful piece of verse. In French, a Canadian, Louis Fréchette, and the *Compte de Fleury* have written excellent verse. In Italian, J. B. Scandella and Rev. Santo Santelli. In Spanish, Juan Antonio Bonalde. In Swedish, John Nyborn.

And, lastly, "Thoughts on Niagara," by Michael McGuire, a blind man, whose poem proves that the cataract appeals to the senses by the ear as well as by the eye.

Numberless other writers of good verse might be named ; but, as in art, it is impossible to name each one who has produced a picture of Niagara that is good, but not superlative, and as in prose it is impossi-

ble to quote each writer whose article contains a specially notable expression or comparison, even so in poetry one cannot even name all who have paid tribute in verse, perhaps in meritorious verse, to Niagara.

F. H. Severance (to whose researches in Niagarana I am indebted for the names of some of the writers last referred to) thus aptly sums up the feebleness of the poetry on the great cataract :

“True poetry must be self-expressive, as well as interpretive of truths which are manifested through physical phenomena. Hence it is in the nature of things that a nameless brook shall have its Tennyson, or a Niagara flow unsung.”

NIAGARA IN ART.

“What artist armies have essayed
To fix that evanescent bow?”

Niagara in art dates back but a trifle over two centuries, the first known picture thereof being that by Father Louis Hennepin, published in 1697. No one spot on earth has been more portrayed, one may go further and say, no one spot on earth has been half as much portrayed, as has Niagara. It has been pictured in every known style of art; in oils, in water colors, in engravings of every grade and kind, in lithographs, in every form of illustration known to magazines and newspapers, in daguerreotypes, and, lastly (numerically exceeding many, many times all the other forms combined), in photography.

And yet, in spite of all this, the really great pictures of Niagara are so few that their number can be expressed by a single numeral, and that number will not be the highest single one.

None of the great painters of mediæval times ever even knew of the existence of the great cataract. Raphael, Michael Angelo, Titian, and Veronese had all been in their graves for half a century before Europeans even heard that a wondrous waterfall existed in the northern part of the Western Hemisphere. Rembrant, Murillo, Rubens and Velasquez, while all of them may have learnt of the existence



ENGRAVED BY SEBASTIAN LE CLERCO, ABOUT 1710.

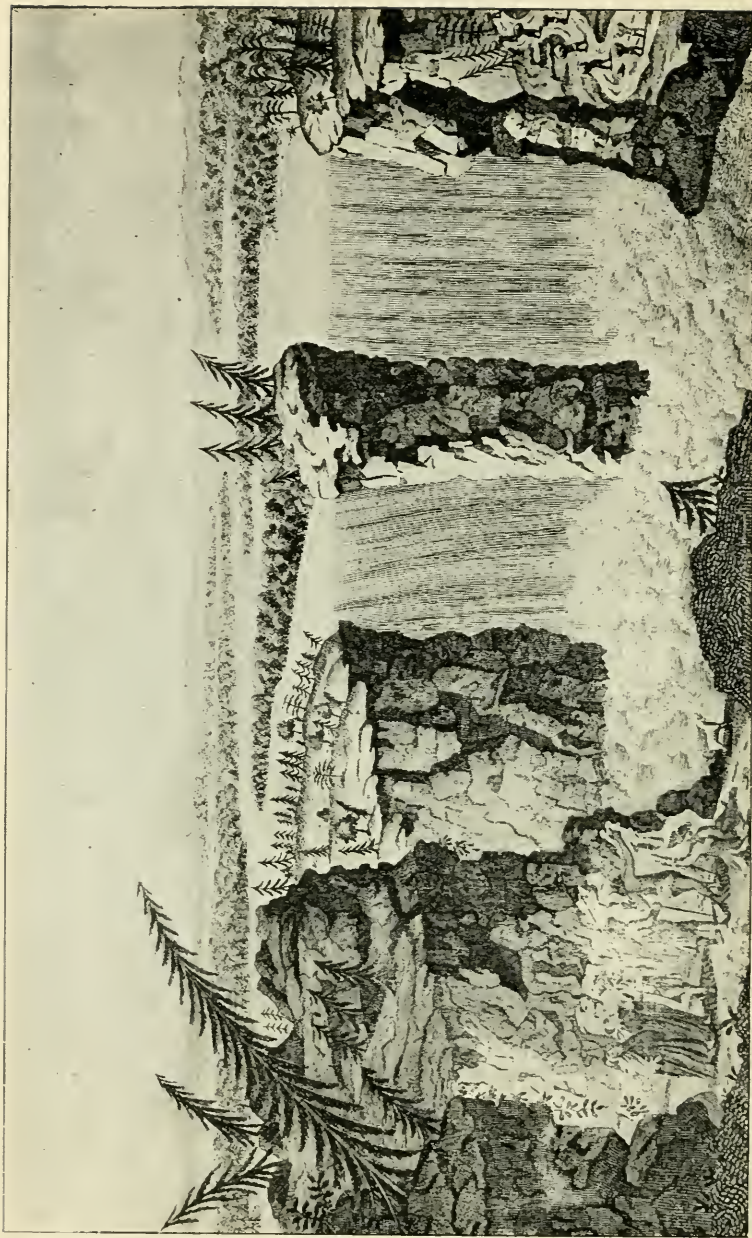
of Niagara, had passed away, before the first known picture of it appeared. As each of them, in the glory of their art, both in their allegory and portraiture, often used natural scenery as a background for their subjects, it is interesting to conjecture how, had it been known to them by even incorrect reproduction, any of them would have depicted the great cataract.

No one of the great artists of the eighteenth century ever journeyed to Niagara ; and as their art was true to nature, no one of them, so far as is known, ever tried to reproduce Niagara in any way.

Art was not a remunerative occupation in Great Britain's American colonies ; neither was the period of the Revolution, nor the decade that followed it, conducive thereto, on this side of the Atlantic.

Yet it is remarkable that such a subject as Niagara, so prominent during their lives, in Britain's military history (in her struggle with France for supremacy in the New World), did not appeal to Reynolds, or West, or Copley, to the latter two especially, as both were born in the colonies, though they spent much of their lives in England.

Again, in the first decade of the nineteenth century, what a picture of the cataract either Turner or Allston — the one an Englishman, the other an American — could have produced ; and yet, although the War of 1812 was fought to a large extent on this frontier, and a famous battle, often called the Battle of Niagara, occurred on the heights above the cataract, and in view of it, the portrayal of Niagara did not appeal to either of them.



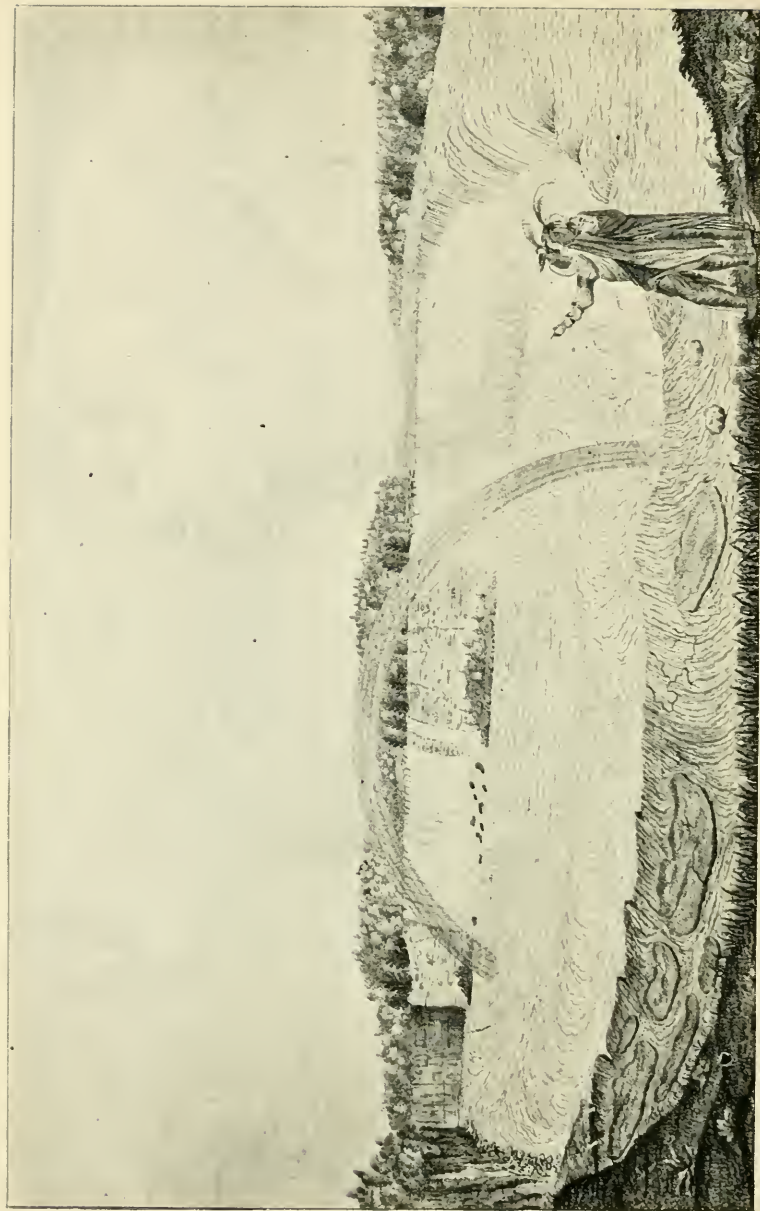
THE EARLY TYPICAL VIEW, 1700-1750.

It was left to later and less famed artists to produce what are called the great pictures of this greatest of natural wonders.

Commencing with Hennepin's picture, in 1697, the first half of the eighteenth century saw many reproductions of Niagara, mainly in wood engraving, all done by artists who never saw Niagara, largely by engravers of the French school, for it must be borne in mind that the French were the owners of Eastern Canada, and from 1678 to 1725 the Niagara region was visited by a large number of Frenchmen, both soldiers and fur traders ; and from 1725 to 1759 Fort Niagara was garrisoned by a large French force. Such of these men as returned to France carried back with them reports of the cataract ; and it was no doubt with Hennepin's picture as a basis, modified by the criticisms thereon and suggestions in connection therewith, made by their countrymen who had seen it, that all the reproductions of Niagara during the first half of the eighteenth century were drawn.

As illustrative of Niagara in art during the first half of the eighteenth century, I have selected three prints : First — Hennepin's, published 1697, though he saw the Falls in 1678-80. This view is given on page 118. Second — Leclercq's, about 1710, based no doubt on Hennepin's view, and modified to better conform to Hennepin's own description, and probably with such changes as friends of his who had seen Niagara suggested. Third — A typical view, practically *the* typical accepted view, of Niagara of that period, probably about 1725.

The dates of these three pictures give convincing



DRAWN BY THOMAS DAVIES, 1760.

testimony as to the changes in the contour of the Falls. Hennepin speaks of the three falls, including one that was at the western end of the Horseshore Fall, formed by the end of the fall running around a big rock, or small rocky isle, at the edge of the cliff, and he so pictures it.

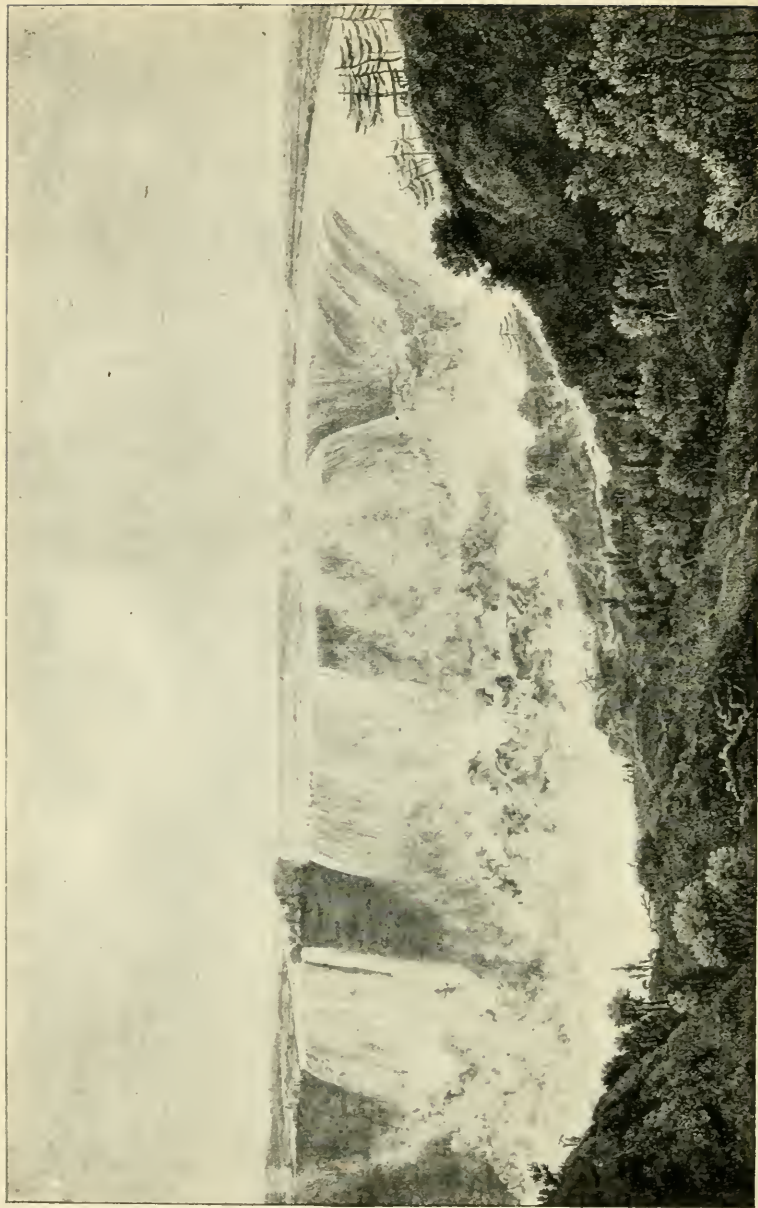
The next view does not show this third fall, going to show that between 1678 and 1710 this rock, or rocky isle, had disintegrated and been swept into the gulf below, thus making this third fall a part of the great Fall.

In 1759, the British gained control of this region, and during that year and the succeeding ten years many hundred Anglo-Saxons, soldiers and traders, gazed upon Niagara.

Thus the picturing of Niagara in the second half of the eighteenth century passed from the French to the English school of engravers ; and, as Niagara became better known, its reproductions became more artistic, and, therefore, more truthful.

Probably the first picture of Niagara after the British acquired possession of this territory was an engraving from a drawing by Captain Thomas Davies, dedicated to General Amherst. It must have appeared about 1760, the plate being one of a series of six, all representing North American scenery. The rainbow must have been an exceptionally large and brilliant one on the day the artist made the sketch.

In 1768 there appeared the first engraving of Niagara which had any serious pretensions either to accuracy or to any artistic merit. It was from a painting by Richard Wilson, which in turn was taken



DRAWN BY LIEUT. PIERIE, 1768.

from a drawing made by Lieutenant Pierie of the Royal British Artillery, who, no doubt, was then stationed at Fort Niagara. These two engravings are reproduced as typical of Niagara in art in the latter half of the eighteenth century.

After the Revolution, and prior to 1810, travelers often came to Niagara. The journey, it was true, was a tiresome one, but many came.

In 1804 John Vanderlyn painted what at that date were the best pictures extant of the Falls. They were done in oils. These two pictures are now in the possession of the New York Historical Society, so badly hung as to be unappreciated.

It is to be noted that all the views of Niagara prior to 1800 are taken from the Canadian side.

The reason for this is obvious. The early visitors sought the one and the most accessible view. Goat Island was accessible only by canoe, the shore on the American side was covered with forest trees, and there was no accommodation for travelers, nor even a settlement there; whereas on the Canadian shore two or three public houses had been built on the high bluff overlooking the American Fall in the latter years of the eighteenth century. What facilities for travel there were, were on the Canadian shore.

Along about 1820, Niagara became a resort of note. Taverns, luxurious ones for that period, were erected on the American side about that date, and the first guide book that included Niagara appeared in 1821, a sure sign that it was a frequented place.

Between 1830 and 1840, the illustrations of Niagara became more plentiful. The lithographers in France,



DRAWN BY F. HOLLOWAY, ABOUT 1840.

England, and America seemed suddenly to have turned their attention to it. Large colored views, in pairs, in sets of four and six, and smaller views, in sets of six, eight, and twelve appeared. Some were fairly well drawn; many were outrageously exaggerated. The coloring of almost all of them was inartistic, if not villainous. As fairly typical of Niagara in the lithography of the first half of the nineteenth century, I have selected but one view, done about 1840, and specially interesting, in that it shows the curve of the Horseshoe Fall, a name substituted during the first half of this century for the former more appropriate name of the Greater Fall.

The middle of the nineteenth century saw the art of Niagara placed on a far higher plane by American artists. In 1848, Thomas Cole portrayed Niagara on canvas better than it ever had been portrayed. In 1857, Frederick Church painted his famous view of the cataract, which is now in the Corcoran Art Gallery in Washington. It stands to-day as the best and highest reproduction of Niagara in art. Gustave Doré never gazed on the Falls; but, in illustrating Chateaubriand's *Atala*, embodied a view of the Greater Fall, done in his characteristic manner — the sheet of water viewed from between, and as it were framed in, the mannered trees for which Doré was famed. Albert Bierstadt has produced one or two specially well executed views of Niagara out of his many studies of the subject.

The rapids above the Falls, that have appealed to many prose writers and poets as the most interesting parts of Niagara, have, of recent years, found two



PAINTED BY THOMAS COLE, 1848.

artists of renown who selected them for reproduction in preference to the Falls themselves. When Wm. M. Hunt was selected to decorate the huge panels of the Assembly Chamber in the Capitol at Albany, about 1880, he chose Niagara for one of his subjects ; and at Niagara he selected the rapids above the Goat Island Bridge as the ideal view. He died before the work on the panel had been commenced, but his finished studies for the work are among the best examples of art at Niagara. Lastly, in 1890, Colin Hunter, now a Royal Academician, came to place Niagara on canvas. He selected as the typical view, the one from the upper end of the Little Brother Island, of the Goat Island group. It is doubtful if, with the exception of Church's Niagara, any picture of Niagara is so fascinating. The crest of the first ledge of the Canadian Rapids, extending from the Sister Islands toward Canada, is the sky line, only the tops of a few trees on the Canadian shore indicating the presence of land.

As representing Niagara in art during the latter half of the nineteenth century, I have selected Thomas Cole's distant view of both Falls from down stream ; Frederick Church's Niagara, from just above Table Rock and looking across the Horseshoe Fall and up the river ; Doré's Niagara as a "mannered sketch" ; and Colin Hunter's Rapids of Niagara. This latter is given on page 94.

Many more examples might be given ; and, perhaps, at some future date, this sketch of Niagara in art may be extended so as to include a fairly full set of the typical reproductions that have been made of the



PAINTED BY FREDERICK E. CHURCH, 1857.
By permission of the owner, The Corcoran Gallery of Art.

scenery of the Cataract during the two hundred years it has been known to the world by reproduction.

Of the unnumbered thousands of photographs of Niagara that professionals from the days of Daguerre, and amateurs for some years past, have taken of this spot, it is only necessary to say here, that the many illustrations in this volume represent the highest and best reproductions of Niagara that the art of photography at the close of the nineteenth century can produce. Many of them represent views heretofore inadequately pictured, in some cases never before known to have been secured. And the desire of the great majority of its visitors to carry home a fairly faithful picture of Niagara, as they saw it, is the main reason for its being incessantly photographed, both by experts and by amateurs.

It is the immensity, so to speak, of Niagara ; it is the overwhelming feeling of power ; it is its practically unproducable lights and shades ; it is the almost unattainable brilliancy of its coloring — that have deterred many really great artists from attempting to paint it.

I think everyone will agree with Hatton when he writes : “ The painter is delighted with Niagara, with the varying forms that challenge his pencil, with the play of light which defies his brush. The light of heaven dances upon it in a thousand different hues. To paint the glories that come and go upon the falling, rushing waters, the artist must dip his brush in the rainbow, and when he has done his best, he will not be believed by those who have not seen his subject with their own eyes.”



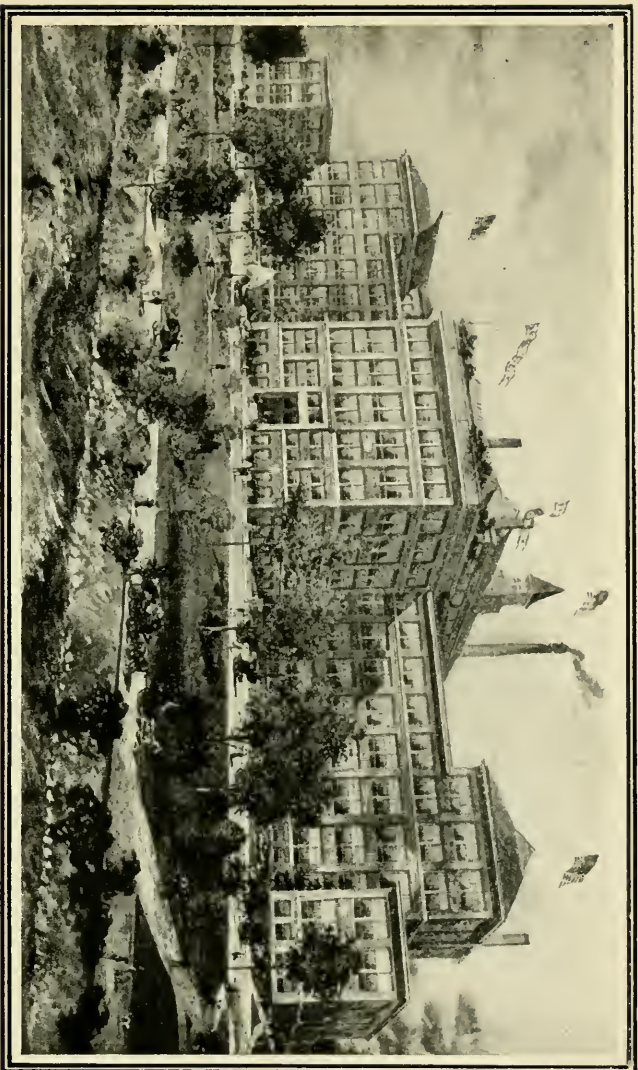
PAINTED BY GUSTAVE DORÉ, ABOUT 1860.

Whether the cataract can be, or will ever be, really truthfully pictured depends on the correctness of the following statement :

“ When motion can be expressed by color, there will be some hope of imparting a faint idea of it ; but until that can be done, Niagara must remain unportrayed.”

MEMORANDA.

THE NATURAL FOOD CONSERVATORY. NIAGARA FALLS, N. Y.



THE HOME OF SHREDDED WHEAT
The Largest and Finest Industrial Building in the World

INTERESTING DATA ABOUT
The Natural Food Conservatory
NIAGARA FALLS, N. Y.

"The Home of Shredded Wheat"

Location . . Buffalo Avenue; 10 acres, finest residence portion of the city, a frontage of 900 feet on the upper Niagara Rapids. One entire block.

Buildings . . Main building 463 feet long and 66 feet wide; four connecting portions; united structure covers an area of 55,653 sq. feet, or a total of 4,500,000 cubic feet; the building has a floor space of about 5½ acres; finished in white enamel and hard wood.

Use . . The main building is devoted to the manufacturing of SHREDDED WHOLE WHEAT BISCUITS; the center section contains administration and educational features; the grand entrance hall, or foyer, for visitors; the general offices of the Company; the lecture hall, or auditorium, seating over 1,000, for entertainments, lectures and conventions; the girls' dining room, on the fifth floor, overlooking the river, where noonday meal is served free; the roof-garden, or observatory.

Interesting Details . .

3,000 tons of Steel.
4,000,000 brick.
30,000 lights glass.
10 tons putty.
35 tons paint.
200 tons marble.
844 windows.
1,000,000 feet flooring.
300 miles electric wire.
\$100,000 in marble and mosaic toilet and bath rooms for employees.
Total cost, building, equipment, \$2,000,000.

Open free to visiting public during the usual business hours.
Approximately 50,000 visitors during 1902.

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